

### results of BLAST

#### BLASTP 2.2.14 [May-07-2006]

#### Reference:

Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schäffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

#### Reference:

Schäffer, Alejandro A., L. Aravind, Thomas L. Madden, Sergei Shavirin, John L. Spouge, Yuri I. Wolf, Eugene V. Koonin, and Stephen F. Altschul (2001), "Improving the accuracy of PSI-BLAST protein database searches with composition-based statistics and other refinements", Nucleic Acids Res. 29:2994-3005.

RID: 1153506756-5678-199370517911.BLAST04

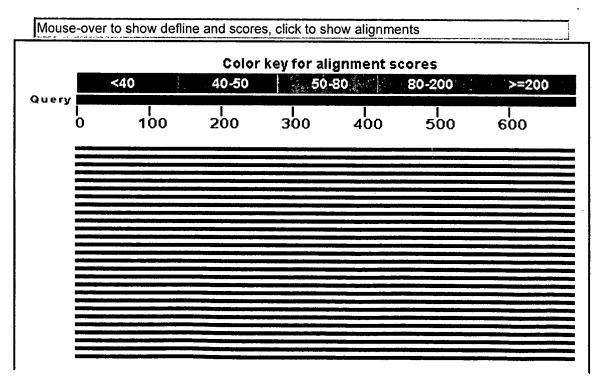
Database: All non-redundant GenBank CDS

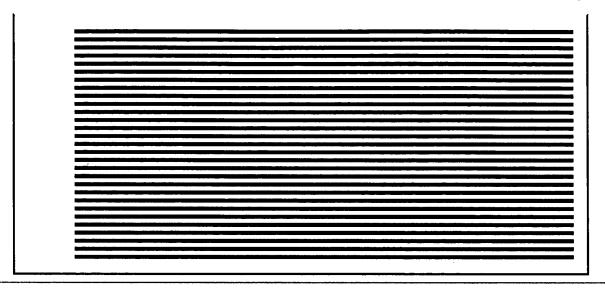
translations+PDB+SwissProt+PIR+PRF excluding environmental samples 3,805,897 sequences; 1,312,134,661 total letters

If you have any problems or questions with the results of this search please refer to the  ${\tt BLAST\ FAQs}$  Taxonomy reports

Query= Length=685

#### Distribution of 100 Blast Hits on the Query Sequence





Distance tree of results Related Structures

Sequences producing significant alignments:		Score	E
	Sequences producing significant alignments:	(Bits)	Value
	•		
	gi 130455 sp P26664 POLG HCV1 Genome polyprotein [Contains: C	<u>1302</u>	
G1   14532251   gb   AAK66557 .1   HCV type 1a/1b chimera mutant polypro   1299   0.0   gi   329876   gb   AAA45677.1   polyprotein   polyprotein   1297   0.0   gi   53079188   gb   AAY29640.1   polyprotein   [Hepatitis C virus]   1286   0.0   gi   48479030   gb   AA744836.1   polyprotein   [Hepatitis C virus]   1286   0.0   gi   22129793   ref   NP   671491.1   polyprotein   [Hepatitis C virus]   1286   0.0   gi   6010588   gb   AAF0182.1   polyprotein   [Synthetic construct] >   1285   0.0   gi   6010588   gb   AAF0182.1   polyprotein   [Synthetic construct] >   1285   0.0   gi   6010586   gb   AAF0182.1   polyprotein   [Synthetic construct] >   1285   0.0   gi   6010586   gb   AAF0182.1   polyprotein   [Synthetic construct] >   1285   0.0   gi   6010586   gb   AAF0182.1   polyprotein   [Synthetic construct] >   1285   0.0   gi   6010586   gb   AAF0182.1   polyprotein   [Hepatitis C virus]   1284   0.0   gi   6010586   gb   AAF0182.1   polyprotein   [Hepatitis C virus]   1283   0.0   gi   6010586   gb   AAF0182.1   polyprotein   [Hepatitis C virus]   1283   0.0   gi   603079190   gb   AAF29641.1   polyprotein   [Hepatitis C virus]   1282   0.0   gi   603079194   gb   AAF29639.1   polyprotein   [Hepatitis C virus]   1281   0.0   gi   603079186   gb   AAF29639.1   polyprotein   [Hepatitis C virus]   1278   0.0   gi   603079186   gb   AAF29639.1   polyprotein   [Hepatitis C virus]   1278   0.0   gi   603079186   gb   AAF29638.1   polyprotein   [Hepatitis C virus]   1276   0.0   gi   603079186   gb   AAF29638.1   polyprotein   [Hepatitis C virus]   1276   0.0   gi   603079186   gb   AAF29638.1   polyprotein   [Hepatitis C virus]   1275   0.0   gi   603079186   gb   AAF65961.1   polyprotein   [Hepatitis C virus]   1234   0.0   gi   603079186   gb   AAF65961.1   polyprotein   [Hepatitis C virus]   1234   0.0   gi   603079186   gb   AAF65961.1   polyprotein   [Hepatitis C virus]   1234   0.0   gi   603079186   gb   AAF65961.1   polyprotein   [Hepatitis C virus]   1232   0.0   gi   1304581891891	gi 14532249 gb AAK66556.1  HCV type la/lb chimera polyprotein	<u>1302</u>	0.0
Gi   329876   gb   AAA45677.1   polyprotein   1297   0.0   gi   63079184   gb   AAY29640.1   polyprotein   Hepatitis C virus   1286   0.0   gi   48479030   gb   AAY49742.1   polyprotein   Hepatitis C virus   1286   0.0   gi   48479030   gb   AAY49742.1   polyprotein   Hepatitis C virus   1286   0.0   gi   48479030   gb   AAF01182.1   polyprotein   Hepatitis C virus   1285   0.0   gi   6010588   gb   AAF01181.1   polyprotein   [synthetic construct ] >   1285   0.0   gi   6010586   gb   AAF01181.1   polyprotein   [synthetic construct] >   1285   0.0   gi   6010586   gb   AAF01181.1   polyprotein   [synthetic construct] >   1285   0.0   gi   6010586   gb   AAF01181.1   polyprotein   [synthetic construct] >   1285   0.0   gi   63079190   gb   AAG67036.1   polyprotein   [Hepatitis C virus   1283   0.0   gi   63079190   gb   AAY29641.1   polyprotein   [Hepatitis C virus strain   1283   0.0   gi   63079194   gb   AAY29643.1   polyprotein   [Hepatitis C virus   1280   0.0   gi   63079194   gb   AAY29643.1   polyprotein   [Hepatitis C virus   1280   0.0   gi   63079194   gb   AAY29639.1   polyprotein   [Hepatitis C virus   1280   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1278   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1234   0.0   gi   2327073   gb   AAB67037.1   polyprotein   [Hepatitis C virus   1234   0.0   gi   2329   AAB67037.1   polyprotein   [Hepatitis C virus   1234   0.0	<pre>gi 8926245 gb AAF81759.1  polyprotein [Hepatitis C virus]</pre>	1301	0.0
	gi 14532251 gb AAK66557.1  HCV type la/lb chimera mutant polypro	1299	0.0
	gi 329876 gb AAA45677.1  polyprotein	1297	0.0
Gi 48479030 gb AAT44836.1    polyprotein [Hepatitis C virus]   1286   0.0	gi 63079188 gb AAY29640.1  polyprotein [Hepatitis C virus]	1287	0.0
Gi 48479030 gb AAT44836.1    polyprotein [Hepatitis C virus]   1286   0.0	gi 55275808 gb AAV49742.1  polyprotein [Hepatitis C virus]	1286	0.0
gi 6010588 gb AAF01182.1          polyprotein [synthetic construct] > 1285         0.0           gi 6010586 gb AAF01181.1          polyprotein [synthetic construct] > 1285         0.0           gi 930557 gb AAG02099.1          polyprotein [synthetic construct] > 1284         0.0           gi 2327071 gb AAB67036.1          polyprotein [Hepatitis C virus]         1283         0.0           gi 63079190 gb AAY29641.1          polyprotein [Hepatitis C virus]         1283         0.0           gi 63079194 gb AAY29643.1          polyprotein [Hepatitis C virus]         1282         0.0           gi 3227075 gb AAB67038.1          polyprotein [Hepatitis C virus]         1281         0.0           gi 9843677 emb CAC03609.1          polyprotein [Hepatitis C virus]         1281         0.0           gi 2327073 gb AAB67038.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379196 gb AAP65037.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379196 gb AAP29638.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379196 gb AAF65961.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30461 sp P27958 pol         HCVH<	· <del></del>	1286	0.0
gi 6010588 gb AAF01182.1          polyprotein [synthetic construct] > 1285         0.0           gi 6010586 gb AAF01181.1          polyprotein [synthetic construct] > 1285         0.0           gi 930557 gb AAG02099.1          polyprotein [synthetic construct] > 1284         0.0           gi 2327071 gb AAB67036.1          polyprotein [Hepatitis C virus]         1283         0.0           gi 63079190 gb AAY29641.1          polyprotein [Hepatitis C virus]         1283         0.0           gi 63079194 gb AAY29643.1          polyprotein [Hepatitis C virus]         1282         0.0           gi 3227075 gb AAB67038.1          polyprotein [Hepatitis C virus]         1281         0.0           gi 9843677 emb CAC03609.1          polyprotein [Hepatitis C virus]         1281         0.0           gi 2327073 gb AAB67038.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379196 gb AAP65037.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379196 gb AAP29638.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30379196 gb AAF65961.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 30461 sp P27958 pol         HCVH<	gil22129793 ref NP 671491.1  polyprotein [Hepatitis C virus]	1286	0.0
gi 6010586 gb AAF01181.1    polyprotein [synthetic construct] > 1285   0.0   gi 930557 gb AAG02099.1    polyprotein [Hepatitis C virus]   1284   0.0   gi 2327071 gb AAG02099.1    polyprotein [Hepatitis C virus strain   1283   0.0   gi 63079190 gb AAY29641.1    polyprotein [Hepatitis C virus]   1282   0.0   gi 63079194 gb AAY29643.1    polyprotein [Hepatitis C virus]   1281   0.0   gi 63079194 gb AAAY29643.1    polyprotein [Hepatitis C virus]   1281   0.0   gi 2327075 gb AAB67038.1    polyprotein [Hepatitis C virus]   1281   0.0   gi 2327075 gb AAB67038.1    polyprotein [Hepatitis C virus]   1278   0.0   gi 63079186 gb AAY29639.1    polyprotein [Hepatitis C virus]   1278   0.0   gi 63079186 gb AAY29639.1    polyprotein [Hepatitis C virus]   1278   0.0   gi 63079186 gb AAY29634.1    polyprotein [Hepatitis C virus]   1278   0.0   gi 130461 sp P27958 POLG   HCVH   Genome polyprotein [Contains: C   1268   0.0   gi 17650232 gb AAF65961.1    polyprotein [Hepatitis C virus]   1234   0.0   gi 17650232 gb AAF65961.1    polyprotein [Hepatitis C virus]   1234   0.0   gi 130458 sp P26663 POLG   HCVBK   Genome polyprotein [Contains:   1232   0.0   gi 12831193 qb AAK08509.1    polyprotein [Hepatitis C virus]   1233   0.0   gi 17650246 gb AAF65954.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 12831193 qb AAK08509.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 17650244 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   gi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1231   0.0   gi 15918939 qb AAF65953.1    polyprotein [Hepatitis C virus]   1231   0.0   gi 15918939 qb AAF65965.1    polyprotein [Hepa			
Qi 2327071 qb AAB67036.1    polyprotein [Hepatitis C virus]   1283   0.0   qi 63079190 qb AAY29641.1    polyprotein [Hepatitis C virus]   1283   0.0   qi 55275810 qb AAY29643.1    polyprotein [Hepatitis C virus]   1282   0.0   qi 63079194 qb AAY29643.1    polyprotein [Hepatitis C virus]   1281   0.0   qi 2327075 qb AAB67038.1    polyprotein [Hepatitis C virus]   1280   0.0   qi 9843677 emb CAC03609.1    unnamed protein product [Hepatitis C virus]   1278   0.0   qi 221587 dbj BAA01582.1    polyprotein precursor [Hepatitis C virus]   1278   0.0   qi 63079186 qb AAY29639.1    polyprotein [Hepatitis C virus]   1278   0.0   qi 63079196 qb AAY29644.1    polyprotein [Hepatitis C virus]   1275   0.0   qi 63079184 qb AAY29638.1    polyprotein [Hepatitis C virus]   1275   0.0   qi 63079184 qb AAY29638.1    polyprotein [Hepatitis C virus]   1234   0.0   qi 7650232 qb AAF65961.1    polyprotein [Hepatitis C virus]   1234   0.0   qi 7650232 qb AAF65947.1    polyprotein [Hepatitis C virus]   1234   0.0   qi 7650232 qb AAF6594.1    polyprotein [Hepatitis C virus]   1233   0.0   qi 130458 sp P26663 POLG   HCVBK   Genome polyprotein [Contains:   1232   0.0   qi 1381193 qb AAR08509.1    polyprotein [Hepatitis C virus]   1232   0.0   qi 138193 qb AAR08509.1    polyprotein [Hepatitis C virus]   1232   0.0   qi 7650246 qb AAF65954.1    polyprotein [Hepatitis C virus]   1232   0.0   qi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   qi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1232   0.0   qi 15918945 qb AAF65953.1    polyprotein [Hepatitis C virus]   1231   0.0   qi 15918939 qb AAF65953.1    polyprotein [Hepatitis C virus]   1231   0.0   qi 15918939 qb AAD56185.1    polyprotein [Hepatitis C virus]   1231   0.0   qi 15918939 qb AAD56185.1    polyprotein [Hepatitis C virus]   1231   0.0   qi 15918939 qb AAD56185.1    polyprotein [Hepatitis C virus]   1231   0.0   qi 15918939 qb AAD56185.1    polyprotein [Hepatitis C virus]   1231   0.0   qi 15918939 qb AAD56185.1    polyprotein [Hepatit			0.0
Gi   63079190   gb   AAY29641.1   polyprotein [Hepatitis C virus]   1283   0.0     gi   55275810   gb   AAV49743.1   polyprotein [Hepatitis C virus]   1282   0.0     gi   63079194   gb   AAY29643.1   polyprotein [Hepatitis C virus]   1281   0.0     gi   2327075   gb   AAB67038.1   polyprotein [Hepatitis C virus strain   1280   0.0     gi   9843677   emb  CAC03609.1   unnamed protein product [Hepatitis C virus]   1278   0.0     gi   2327073   gb   AAB67037.1   polyprotein [Hepatitis C virus]   1278   0.0     gi   2327073   gb   AAB67037.1   polyprotein [Hepatitis C virus]   1278   0.0     gi   63079186   gb   AAY29639.1   polyprotein [Hepatitis C virus]   1275   0.0     gi   63079196   gb   AAY29644.1   polyprotein [Hepatitis C virus]   1275   0.0     gi   130461   sp   P27958   POLG   HCVH   Genome polyprotein [Contains: C   1268   0.0     gi   130461   sp   P27958   POLG   HCVH   Genome polyprotein [Contains: C   1263   0.0     gi   17650260   gb   AAF65961.1   polyprotein [Hepatitis C virus]   1234   0.0     gi   17650232   gb   AAF65947.1   polyprotein [Hepatitis C virus]   1234   0.0     gi   15918947   gb   AAD56189.1   polyprotein [Hepatitis C virus]   1233   0.0     gi   15918947   gb   AAD56198.1   polyprotein [Hepatitis C virus]   1232   0.0     gi   17650246   gb   AAR08509.1   polyprotein [Hepatitis C virus]   1232   0.0     gi   17650246   gb   AAF65954.1   polyprotein [Hepatitis C virus]   1232   0.0     gi   17650246   gb   AAF65953.1   polyprotein [Hepatitis C virus]   1232   0.0     gi   17650244   gb   AAF65953.1   polyprotein [Hepatitis C virus]   1231   0.0     gi   15918939   gb   AAD56185.1   polyprotein [Hepatitis C virus]   1231   0.0     gi   15918939   gb   AAD56185.1   polyprotein [Hepatitis C virus]   1231   0.0     gi   15918939   gb   AAD56185.1   polyprotein [Hepatitis C virus]   1231   0.0     gi   15918939   gb   AAD56185.1   polyprotein [Hepatitis C virus]   1231   0.0     gi   15918939   gb   AAD56185.1   polyprotein [Hepatitis C virus]   1231   0.0     gi   15918939			
gi 55275810 gb AAV49743.1          polyprotein [Hepatitis C virus]         1282         0.0           gi 63079194 gb AAY29643.1          polyprotein [Hepatitis C virus]         1281         0.0           gi 2327075 gb AAB67038.1          polyprotein [Hepatitis C virus strain 1280         0.0           gi 221587 dbj BAA01582.1          unnamed protein product [Hepatitis C virus]         1278         0.0           gi 63079186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 63079186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 3079196 gb AAY29644.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 3079196 gb AAY29644.1          polyprotein [Hepatitis C virus]         1275         0.0           gi 3046 sp P27958 POLG HCVH Genome polyprotein [Contains: C 1268         0.0         0           gi 3079184 gb AAY29638.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 7650260 gb AAF65961.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 7650232 gb AAF65947.1          polyprotein [Hepatitis C virus]         1233         0.0           gi 5918947 gb AAF65954.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 17650246 gb AAF65954.1			
gi   63079194   qb   AAY29643.1           polyprotein [Hepatitis C virus]         1281           0.0             gi   2327075   qb   AAB67038.1           polyprotein [Hepatitis C virus strain           1280           0.0             gi   9843677   emb   CAC03609.1           unnamed protein product [Hepatitis C virus           1278           0.0             qi   63079186   gb   AAY29639.1           polyprotein [Hepatitis C virus]           1278           0.0             gi   2327073   qb   AAB67037.1           polyprotein [Hepatitis C virus strain           1278           0.0             gi   63079186   gb   AAY29639.1           polyprotein [Hepatitis C virus strain           1278           0.0             gi   63079196   gb   AAY29644.1           polyprotein [Hepatitis C virus           1275           0.0             gi   130461   sp   P27958   POLG   HCVH           Genome polyprotein [Contains: C           1268           0.0             gi   7650260   qb   AAF65961.1           polyprotein [Hepatitis C virus]           1234           0.0             gi   7650232   qb   AAF65947.1           polyprotein [Hepatitis C virus]           1233           0.0             gi   15918947   qb   AAD56189.1           polyprotein [Hepatitis C virus]           1232           0.0             gi   15918945   gb   AAD56199.1           polyprotein [Hepatitis C virus]           1232           0.0       <			
gi 2327075 gb AAB67038.1          polyprotein [Hepatitis C virus strain         1280         0.0           gi 9843677 emb CAC03609.1          unnamed protein product [Hepatitis C virus]         1278         0.0           gi 221587 dbj BAA01582.1          polyprotein precursor [Hepatitis C virus]         1278         0.0           gi 63079186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 3079196 gb AAB67037.1          polyprotein [Hepatitis C virus strain         1278         0.0           gi 3079196 gb AAY29644.1          polyprotein [Hepatitis C virus]         1275         0.0           gi 3079184 gb AAY29638.1          polyprotein [Hepatitis C virus]         1263         0.0           gi 7650260 gb AAF65961.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 7650232 gb AAF65947.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 5918947 gb AAD56189.1          polyprotein [Hepatitis C virus]         1233         0.0           gi 5918965 gb AAD56198.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 130458 sp P26663 POLG HCVBK         Genome polyprotein [Contains:	· <del>// - · · · · · · · · · · · · · · · · · ·</del>		
gi 9843677 emb CAC03609.1          unnamed protein product [Hepatitis C         1278         0.0           gi 221587 dbj BAA01582.1          polyprotein precursor [Hepatitis C vir us]         1278         0.0           gi 63079186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 63079196 gb AAY29644.1          polyprotein [Hepatitis C virus]         1275         0.0           gi 30461 sp P27958 POLG HCVH         Genome polyprotein [Contains: C         1268         0.0           gi 63079184 gb AAY29638.1          polyprotein [Hepatitis C virus]         1235         0.0           gi 7650260 gb AAF65961.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 7650232 gb AAF65947.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 5918947 gb AAD56189.1          polyprotein [Hepatitis C virus]         1233         0.0           gi 5918965 gb AAD56198.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 130458 sp P26663 POLG HCVBK Genome polyprotein [Contains:         1232         0.0           gi 130458 sp P26663 POLG HCVBK Genome polyprotein [Hepatitis C virus]         1232         0.0           gi 17650246 gb AAF65954.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 591893			
gi 221587 dbj BAA01582.1          polyprotein precursor [Hepatitis C vir us]         1278         0.0           gi 63079186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 2327073 gb AAB67037.1          polyprotein [Hepatitis C virus strain         1278         0.0           gi 63079196 gb AAY29644.1          polyprotein [Hepatitis C virus]         1275         0.0           gi 30461 sp P27958 POLG HCVH Genome polyprotein [Contains: C         1268         0.0           gi 63079184 gb AAY29638.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 7650260 gb AAF65961.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 7650232 gb AAF65947.1          polyprotein [Hepatitis C virus]         1233         0.0           gi 5918947 gb AAD56189.1          polyprotein [Hepatitis C virus]         1233         0.0           gi 5918965 qb AAD56189.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 12831193 qb AAK08509.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 5918945 gb AAD56188.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 5918945 gb AAD56188.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 5918939			0.0
gi 63079186 gb AAY29639.1          polyprotein [Hepatitis C virus]         1278         0.0           gi 2327073 gb AAB67037.1          polyprotein [Hepatitis C virus]         1278         0.0           qi 63079196 gb AAY29644.1          polyprotein [Hepatitis C virus]         1275         0.0           qi 30461 sp P27958 POLG HCVH         Genome polyprotein [Contains: C         1268         0.0           qi 63079184 gb AAY29638.1          polyprotein [Hepatitis C virus]         1263         0.0           qi 7650260 gb AAF65961.1          polyprotein [Hepatitis C virus]         1234         0.0           qi 7650232 gb AAF65947.1          polyprotein [Hepatitis C virus]         1233         0.0           qi 5918947 gb AAD56189.1          polyprotein [Hepatitis C virus]         1232         0.0           qi 5918965 qb AAD56198.1          polyprotein [Hepatitis C virus]         1232         0.0           qi 12831193 qb AAK08509.1          polyprotein [Hepatitis C virus]         1232         0.0           qi 7650246 qb AAF65954.1          polyprotein [Hepatitis C virus]         1232         0.0           qi 7650244 qb AAF65953.1          polyprotein [Hepatitis C virus]         1232         0.0           qi 7650244 qb AAF65953.1          polyprotein [Hepatitis C virus]         1231         0.0	·		0.0
gi 2327073 gb AAB67037.1          polyprotein [Hepatitis C virus strain         1278         0.0           gi 63079196 gb AAY29644.1          polyprotein [Hepatitis C virus]         1275         0.0           gi 130461 sp P27958 POLG HCVH         Genome polyprotein [Contains: C         1268         0.0           gi 63079184 gb AAY29638.1          polyprotein [Hepatitis C virus]         1263         0.0           gi 7650260 gb AAF65961.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 71559457 db BAB18808.1          polyprotein [Hepatitis C virus]         1234         0.0           gi 7650232 gb AAF65947.1          polyprotein [Hepatitis C virus]         1233         0.0           gi 5918947 gb AAD56189.1          polyprotein [Hepatitis C virus]         1233         0.0           gi 5918965 gb AAD56198.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 130458 sp P26663 POLG HCVBK         Genome polyprotein [Contains:         1232         0.0           gi 7650246 gb AAF65954.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 5918945 gb AAD56188.1          polyprotein [Hepatitis C virus]         1232         0.0           gi 5918939 gb AAF65953.1          polyprotein [Hepatitis C virus]         1231         0.0 <t< td=""><td></td><td></td><td></td></t<>			
qi 63079196 gb AAY29644.1        polyprotein [Hepatitis C virus]       1275       0.0         qi 130461 sp P27958 POLG HCVH       Genome polyprotein [Contains: C 1268       0.0         qi 63079184 gb AAY29638.1        polyprotein [Hepatitis C virus]       1263       0.0         qi 7650260 qb AAF65961.1        polyprotein [Hepatitis C virus]       1234       0.0         qi 7650232 qb AAF65947.1        polyprotein [Hepatitis C virus]       1233       0.0         qi 5918947 qb AAD56189.1        polyprotein [Hepatitis C virus]       1233       0.0         qi 5918965 qb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         qi 130458 sp P26663 POLG HCVBK Genome polyprotein [Contains: 1232       0.0       0         qi 7650246 qb AAF65954.1        polyprotein [Hepatitis C virus type 1       1232       0.0         qi 7650246 qb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         qi 7650244 qb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         qi 5918939 qb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			
gi 130461 sp P27958 POLG HCVH       Genome polyprotein [Contains: C       1268       0.0         gi 63079184 gb AAY29638.1        polyprotein [Hepatitis C virus]       1263       0.0         gi 7650260 gb AAF65961.1        polyprotein [Hepatitis C virus]       1234       0.0         gi 17650232 gb AAF65947.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918947 gb AAD56189.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918965 gb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 130458 sp P26663 POLG HCVBK Genome polyprotein [Contains: 1232       0.0         gi 12831193 gb AAK08509.1        polyprotein [Hepatitis C virus type 1       1232       0.0         gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			0.0
gi 63079184 gb AAY29638.1        polyprotein [Hepatitis C virus]       1263       0.0         gi 7650260 gb AAF65961.1        polyprotein [Hepatitis C virus]       1234       0.0         gi 11559457 dbj BAB18808.1        polyprotein [Hepatitis C virus]       1234       0.0         gi 7650232 gb AAF65947.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918947 gb AAD56189.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918965 qb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 130458 sp P26663 POLG HCVBK Genome polyprotein [Contains: 1232       0.0         gi 12831193 qb AAK08509.1        polyprotein [Hepatitis C virus type 1       1232       0.0         gi 7650246 qb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 qb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918939 qb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 qb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			0.0
gi 7650260 gb AAF65961.1        polyprotein [Hepatitis C virus]       1234       0.0         gi 11559457 dbj BAB18808.1        polyprotein [Hepatitis C virus]       1234       0.0         gi 7650232 gb AAF65947.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918947 gb AAD56189.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918965 gb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 130458 sp P26663 POLG HCVBK Genome polyprotein [Contains: 1232       0.0         gi 12831193 gb AAK08509.1        polyprotein [Hepatitis C virus type 1       1232       0.0         gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			
gi 11559457 dbj BAB18808.1        polyprotein [Hepatitis C virus]       1234       0.0         gi 7650232 gb AAF65947.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918947 gb AAD56189.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918965 gb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 130458 sp P26663 POLG_HCVBK       Genome polyprotein [Contains: 1232       0.0         gi 12831193 gb AAK08509.1        polyprotein [Hepatitis C virus type 1 1232       0.0         gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0		1234	0.0
gi 7650232 gb AAF65947.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918947 gb AAD56189.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918965 gb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 130458 sp P26663 POLG HCVBK       Genome polyprotein [Contains: 1232       0.0         gi 12831193 gb AAK08509.1        polyprotein [Hepatitis C virus type 1 1232       0.0         gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			0.0
gi 5918947 gb AAD56189.1        polyprotein [Hepatitis C virus]       1233       0.0         gi 5918965 gb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 130458 sp P26663 POLG HCVBK       Genome polyprotein [Contains: 1232       0.0         gi 12831193 gb AAK08509.1        polyprotein [Hepatitis C virus type 1 1232       0.0         gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			0.0
gi 5918965 gb AAD56198.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 130458 sp P26663 POLG HCVBK Genome polyprotein [Contains: 1232       0.0         gi 12831193 qb AAK08509.1        polyprotein [Hepatitis C virus type 1 1232       0.0         gi 7650246 qb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 qb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 qb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 qb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			0.0
gi 130458 sp P26663 POLG HCVBK       Genome polyprotein [Contains: 1232       0.0         gi 12831193 gb AAK08509.1        polyprotein [Hepatitis C virus type 1 1232       0.0         gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			
gi 12831193 gb AAK08509.1        polyprotein [Hepatitis C virus type 1       1232       0.0         gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			
gi 7650246 gb AAF65954.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0		1232	0.0
gi 5918945 gb AAD56188.1        polyprotein [Hepatitis C virus]       1232       0.0         gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0			0.0
gi 7650244 gb AAF65953.1        polyprotein [Hepatitis C virus]       1231       0.0         gi 5918939 gb AAD56185.1        polyprotein [Hepatitis C virus]       1231       0.0		1232	0.0
<u>gi 5918939 gb AAD56185.1 </u> polyprotein [Hepatitis C virus] 1231 0.0			

G

<pre>gi 46560636 gb AAT00644.1  polyprotein [Hepatitis C virus]</pre>	<u>1231</u>	0.0
gi 23957857 gb AAD44718.2  polyprotein [Hepatitis C virus]	1231	0.0
gi 7650266 gb AAF65964.1  polyprotein [Hepatitis C virus]	$\frac{2}{1231}$	
		0.0
<pre>gi 5821155 dbj BAA83719.1  polyprotein [Hepatitis C virus]</pre>	<u> 1231</u>	0.0
<pre>gi 87080431 emb CAH64686.1  polyprotein [Hepatitis C virus]</pre>	1231	0.0
gi 5918967 gb AAD56199.1  polyprotein [Hepatitis C virus]	1230	0.0
gi 11559469 dbj BAB18814.1  polyprotein [Hepatitis C virus]	$\frac{1230}{1230}$	
		0.0
<pre>gi 48237634 gb AAT40682.1  polyprotein [Hepatitis C virus]</pre>	<u>1230</u>	0.0
gi 1212742 dbj BAA08120.1  HCV polyprotein [Hepatitis C virus]	1230	0.0
<pre>gi 7650248 gb AAF65955.1  polyprotein [Hepatitis C virus]</pre>	1229	0.0
gi 7650236 gb AAF65949.1  polyprotein [Hepatitis C virus]	$\frac{2229}{1229}$	0.0
<pre>gi 5918951 gb AAD56191.1  polyprotein [Hepatitis C virus]</pre>	<u>1229</u>	0.0
gi 266820 sp Q00269 POLG_HCVJT Genome polyprotein [Contains:	1229	0.0
gi 464178 dbj BAA03581.1  polyprotein [Hepatitis C virus (iso	1229	0.0
gi 11559447 dbj BAB18803.1  polyprotein [Hepatitis C virus]	1229	0.0
	1229	0.0
<pre>gi 5441839 emb CAB46915.1  non-structural polyprotein [Hepati</pre>	<u> 1229</u>	0.0
gi 5420377 emb CAB46677.1  polyprotein [Hepatitis C virus typ	1228	0.0
gi 62006147 dbj BAD91386.1  polyprotein [Hepatitis C virus]	1228	0.0
gi 5738247 gb AAD50312.1  polyprotein precursor [Hepatitis C vir	$\frac{2228}{1228}$	0.0
<pre>gi 7650228 gb AAF65945.1  polyprotein [Hepatitis C virus]</pre>	1228	0.0
<pre>gi 5918957 gb AAD56194.1  polyprotein [Hepatitis C virus]</pre>	<u> 1228</u>	0.0
gi 5918929 gb AAD56180.1  polyprotein [Hepatitis C virus]	1228	0.0
gi 7650256 gb AAF65959.1  polyprotein [Hepatitis C virus]	1228	0.0
gi 7650222 gb AAF65942.1  polyprotein [Hepatitis C virus]		
<del></del>	1228	0.0
<pre>gi 46560634 gb AAT00643.1  polyprotein [Hepatitis C virus]</pre>	<u> 1227</u>	0.0
<pre>gi 11559455 dbj BAB18807.1  polyprotein [Hepatitis C virus]</pre>	1227	0.0
<pre>gi 7650240 gb AAF65951.1  polyprotein [Hepatitis C virus]</pre>	1227	0.0
gi 11559451 dbj BAB18805.1  polyprotein [Hepatitis C virus]	1227	0.0
gi 11559445 dbj BAB18802.1  polyprotein [Hepatitis C virus]	1227	0.0
<pre>gi 471117 dbj BAA01728.1  polyprotein precursor [Hepatitis C vir</pre>	1227	0.0
gi 5918953 gb AAD56192.1  polyprotein [Hepatitis C virus]	1226	0.0
gi 11559449 dbj BAB18804.1  polyprotein [Hepatitis C virus]	1226	0.0
gi 2764398 emb CAA03854.1  polyprotein [Hepatitis C virus]	$\frac{1226}{1226}$	0.0
<pre>gi 56342187 dbj BAD73971.1  polyprotein [Hepatitis C virus type</pre>	<u>1226</u>	0.0
<pre>gi 7341103 gb AAF61205.1  polyprotein [Hepatitis C virus]</pre>	1226	0.0
gi 7650234 gb AAF65948.1  polyprotein [Hepatitis C virus]	1226	0.0
gi 5918955 gb AAD56193.1  polyprotein [Hepatitis C virus]	1226	0.0
gi 5918931 gb AAD56181.1  polyprotein [Hepatitis C virus]	$\frac{1226}{1226}$	0.0
gi 266821 sp P29846 POLG_HCVTW Genome polyprotein [Contains:	<u>1226</u>	0.0
<pre>gi 11559441 dbj BAB18800.1  polyprotein [Hepatitis C virus]</pre>	<u> 1226</u>	0.0
<pre>gi 56342185 dbj BAD73970.1  polyprotein [Hepatitis C virus type</pre>	1225	0.0
gi 7650254 gb AAF65958.1  polyprotein [Hepatitis C virus]	1225	0.0
gi 5918933 gb AAD56182.1  polyprotein [Hepatitis C virus]	1225	0.0
	1225	0.0
<pre>gi 1160328 dbj BAA03375.1  polyprotein [Hepatitis C virus]</pre>	<u>1225</u>	0.0
<pre>gi 56342203 dbj BAD73979.1  polyprotein [Hepatitis C virus type</pre>	1225	0.0
gi 56342189 dbj BAD73972.1  polyprotein [Hepatitis C virus type	1225	0.0
gi 7650252 gb AAF65957.1  polyprotein [Hepatitis C virus]	1225	0.0
gi 7650242 gb AAF65952.1  polyprotein [Hepatitis C virus]	1225	0.0
<pre>gi 5918959 gb AAD56195.1  polyprotein [Hepatitis C virus]</pre>	1225	0.0
<pre>gi 5918943 gb AAD56187.1  polyprotein [Hepatitis C virus]</pre>	1225	0.0
gi 27544244 dbj BAC54896.1  polyprotein [Hepatitis C virus]	1225	0.0
gi 11559453 dbj BAB18806.1  polyprotein [Hepatitis C virus]	$\frac{2235}{1225}$	0.0
	1224	0.0
<pre>gi 56342241 dbj BAD73998.1  polyprotein [Hepatitis C virus type</pre>	<u>1224</u>	0.0
<pre>gi 56342237 dbj BAD73996.1  polyprotein [Hepatitis C virus type</pre>	1224	0.0
gi 11559461 dbj BAB18810.1  polyprotein [Hepatitis C virus]	1224	0.0
gi 221615 dbj BAA18894.1  polyprotein [Hepatitis C virus]	1224	0.0
gi 56342239 dbj BAD73997.1  polyprotein [Hepatitis C virus type		
	1224	0.0
<pre>gi 1814085 dbj BAA09071.1  polyprotein [Hepatitis C virus]</pre>	<u>1224</u>	0.0

gi 56342201 dbj BAD73978.1  polyprotein [Hepatitis C virus type	1224	0.0
<pre>qi 7650264 qb AAF65963.1  polyprotein [Hepatitis C virus]</pre>	1224	0.0
gi 5918941 gb AAD56186.1  polyprotein [Hepatitis C virus]	1224	0.0
gi 5441842 emb CAB46917.1  non-structural polyprotein [Hepati	1224	0.0
gi 56342193 dbj BAD73974.1  polyprotein [Hepatitis C virus type	1223	0.0
gi 11559459 dbj BAB18809.1  polyprotein [Hepatitis C virus]	1223	0.0
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<pre>gi 56342191 dbj BAD73973.1  polyprotein [Hepatitis C virus type</pre>	1223	0.0
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gi 11559443 dbj BAB18801.1  polyprotein [Hepatitis C virus]	1223	0.0
gi 56342229 dbj BAD73992.1  polyprotein [Hepatitis C virus type	1222	0.0
gi 56342225 dbj BAD73990.1  polyprotein [Hepatitis C virus type	1222	0.0
gi 56342199 dbj BAD73977.1  polyprotein [Hepatitis C virus type	1222	0.0
<pre>gi 56342197 dbj BAD73976.1  polyprotein [Hepatitis C virus type</pre>	<u> 1222</u>	0.0
gi 56342195 dbj BAD73975.1  polyprotein [Hepatitis C virus type	1222	0.0
gi 496367 dbj BAA03905.1  polyprotein precursor [Hepatitis C vir	1222	0.0
gi 1749762 dbj BAA14035.1  unnamed protein product [Hepatitis C	1222	0.0
gi 56342227 dbj BAD73991.1  polyprotein [Hepatitis C virus type	1222	0.0
gi[7650226]gb[AAF65944.1] polyprotein [Hepatitis C virus]	1222	0.0
gi 56342209 dbj BAD73982.1  polyprotein [Hepatitis C virus type	1221	0.0
<pre>gi 5918935 gb AAD56183.1  polyprotein [Hepatitis C virus]</pre>	<u>1221</u>	0.0
gi 56342215 dbj BAD73985.1  polyprotein [Hepatitis C virus type	1221	0.0
gi 56342211 dbj BAD73983.1  polyprotein [Hepatitis C virus type	<u>1221</u>	0.0
qi 7650238 gb AAF65950.1  polyprotein [Hepatitis C virus]	1221	0.0
<del></del>		
gi 31980453 dbj BAC77767.1  NS protein [Hepatitis C virus]	1221	0.0
gi 1814086 dbj BAA09072.1  polyprotein [Hepatitis C virus]	1221	0.0
· <del>·</del>		
gi 56342231 dbj BAD73993.1  polyprotein [Hepatitis C virus type	1221	0.0
· <del></del>	1221	0.0
<pre>gi 7650230 gb AAF65946.1  polyprotein [Hepatitis C virus]</pre>		
gi 221611 dbj BAA14233.1  unnamed protein product [Hepatitis	1221	0.0
		0 0
gi 1181832 gb AAA86907.1  polyprotein ;	<u>1221</u>	0.0
gi 4753719 emb CAB41950.1  polyprotein [Hepatitis C virus]	1220	0.0
gi 56342221 dbj BAD73988.1  polyprotein [Hepatitis C virus type	1220	0.0
gi 56342217 dbj BAD73986.1  polyprotein [Hepatitis C virus type	1220	0.0
gi 56342213 dbj BAD73984.1  polyprotein [Hepatitis C virus type	1220	0.0
gi 221605 dbj BAA02756.1  polyprotein precursor [Hepatitis C vir	1220	0.0
gi 1814087 dbj BAA09073.1  polyprotein [Hepatitis C virus]	1220	0.0
gi 18027685 gb AAL55821.1  polyprotein [Hepatitis C virus]	$\frac{1219}{1219}$	0.0
gi 7650250 gb AAF65956.1  polyprotein [Hepatitis C virus]	1219	0.0
	1219	0.0
gi 11559467 dbj BAB18813.1  polyprotein [Hepatitis C virus]		
gi 11559463 dbj BAB18811.1  polyprotein [Hepatitis C virus]	1219 ·	0.0
gi 56342205 dbj BAD73980.1  polyprotein [Hepatitis C virus type	1219	0.0
· · · · · · · · · · · · · · · · · · ·		
gi 385584 gb AAB27127.1  polyprotein [Hepatitis C virus] >gi	1218	0.0
	1218	0.0
gi 560789 dbj BAA06303.1  polyprotein [Hepatitis C virus]		
gi 56342219 dbj BAD73987.1  polyprotein [Hepatitis C virus type	1217	0.0
	1217	0 0
<pre>gi 3098633 gb AAC15722.1  polyprotein [Hepatitis C virus]</pre>		0.0
gi 86372255 gb ABC95195.1  polyprotein [Hepatitis C virus]	1217	0.0
· · · · · · · · · · · · · · · · · · ·		
<pre>gi 67773303 gb AAY81920.1  polyprotein [Hepatitis C virus]</pre>	<u>1217</u>	0.0
gi 56342223 dbj BAD73989.1  polyprotein [Hepatitis C virus type	1217	0.0
<pre>gi 221607 dbj BAA01583.1  polyprotein precursor [Hepatitis C vir</pre>	<u>1217</u>	0.0
gi 80322852 gb ABB52628.1  polyprotein [Hepatitis C virus]	1216	0.0
gi 5918963 gb AAD56197.1  polyprotein [Hepatitis C virus]	1216	0.0
gi 5918961 gb AAD56196.1  polyprotein [Hepatitis C virus]	1216	0.0
gi 1944376 dbj BAA19625.1  unnamed protein product [Hepatitis C	<u>1216</u>	0.0
gi 1814089 dbj BAA09076.1  polyprotein [Hepatitis C virus]	1216	0.0
- <del></del>		
gi 19568933 gb AAL91977.1  polyprotein [Hepatitis C virus type 1	<u> 1215</u>	0.0
	1215	0.0
<pre>gi 56342233 dbj BAD73994.1  polyprotein [Hepatitis C virus type</pre>	1215	0.0
<pre>gi 3098637 gb AAC15724.1  polyprotein [Hepatitis C virus]</pre>	1215	0.0
gi 15487694 gb AA <u>L00900.1 </u> polyprotein [Hepatitis Ç virus]	1214	0.0
<del></del>	1214	
<pre>gi 3098635 gb AAC15723.1  polyprotein [Hepatitis C virus]</pre>		0.0
gi 3098651 gb AAC15730.1  polyprotein [Hepatitis C virus]	1214	0.0

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gi|3098648|gb|AAC15729.1|
                            polyprotein [Hepatitis C virus]
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                                                                              0.0
                             polyprotein [Hepatitis C virus]
gi|15529111|gb|AAK97744.1|
                                                                      1213
                                                                              0.0
gi|3098644|gb|AAC15727.1|
                            polyprotein [Hepatitis C virus]
                                                                      1213
                                                                              0.0
gi|3098639|qb|AAC15725.1|
                            polyprotein [Hepatitis C virus]
                                                                      1213
                                                                              0.0
gi|1814090|dbj|BAA09075.1|
                             polyprotein [Hepatitis C virus]
                                                                      1212
                                                                              0.0
gi|56342207|dbj|BAD73981.1|
                              polyprotein [Hepatitis C virus type
                                                                      1212
                                                                              0.0
                            polyprotein [Hepatitis C virus]
gi|3098646|gb|AAC15728.1|
                                                                      1212
                                                                              0.0
gi|59479|emb|CAA43793.1|
                           JK1-full [Hepatitis C virus]
                                                                      1211
                                                                              0.0
gi|3810874|dbj|BAA20975.1|
                             precursor polyprotein [Hepatitis C vi
                                                                      1211
                                                                              0.0
gi|3098653|qb|AAC15731.1|
                            polyprotein [Hepatitis C virus]
                                                                      1211
                                                                              0.0
gi|3098642|gb|AAC15726.1|
                            polyprotein [Hepatitis C virus]
                                                                      1210
                                                                              0.0
gi|3098655|gb|AAC15732.1|
                            polyprotein [Hepatitis C virus]
                                                                      1210
                                                                              0.0
gi|80322850|gb|ABB52627.1|
                             polyprotein [Hepatitis C virus]
                                                                      1209
                                                                              0.0
gi|2943784|dbj|BAA25076.1|
                             polyprotein [Hepatitis C virus]
                                                                      1207
                                                                              0.0
gi|81960062|sp|Q913D4|POLG HCVIN Genome polyprotein [Contains...
                                                                      1207
                                                                              0.0
gi|38492205|gb|AAR22408.1|
                             polyprotein [Hepatitis C virus]
                                                                      1204
                                                                              0.0
gi|306287|gb|AAA45721.1|
                           putative
                                                                      1199
                                                                              0.0
gi|50235322|gb|AAT69968.1|
                             polyprotein [Hepatitis C virus]
                                                                      1199
                                                                              0.0
gi|567060|gb|AAA52748.1|
                                                                      1198
                           polyprotein
                                                                              0.0
gi|5748511|emb|CAB53095.1|
                             polyprotein [Hepatitis C virus type 1
                                                                      1197
                                                                              0.0
gi|437108|gb|AAA75355.1|
                                                                      1197
                                                                              0.0
                           polyprotein
gi|7650258|gb|AAF65960.1|
                                                                      1195
                            polyprotein [Hepatitis C virus]
                                                                              0.0
gi | 4753721 | emb | CAB41951.1 |
                             polyprotein [Hepatitis C virus]
                                                                      1193
                                                                              0.0
gi|7650262|qb|AAF65962.1|
                                                                      1193
                            polyprotein [Hepatitis C virus]
                                                                              0.0
gi|1405417|dbj|BAA09919.1|
                                                                      1191
                             El and E2/NS1 envelope glycoprotein [
                                                                              0.0
                             polyprotein [Hepatitis C virus]
                                                                      1174
gi|67810846|gb|AAY82011.1|
                                                                              0.0
                             polyprotein [Hepatitis C virus]
                                                                      1172
gi|67810857|gb|AAY82016.1|
                                                                              0.0
                                                                      1172
gi|67810849|gb|AAY82012.1|
                             polyprotein [Hepatitis C virus]
                                                                              0.0
gi|67810875|gb|AAY82024.1|
                             polyprotein [Hepatitis C virus] >g...
                                                                      1171
                                                                              0.0
qi|67810866|qb|AAY82020.1|
                             polyprotein [Hepatitis C virus]
                                                                      1171
                                                                              0.0
                                                                      1170
gi|67810879|gb|AAY82026.1|
                             polyprotein [Hepatitis C virus]
                                                                              0.0
gi|67810877|gb|AAY82025.1|
                             polyprotein [Hepatitis C virus]
                                                                      1170
                                                                              0.0
                             polyprotein [Hepatitis C virus]
gi|67810842|gb|AAY82009.1|
                                                                      1170
                                                                              0.0
gi|67810859|gb|AAY82017.1|
                             polyprotein [Hepatitis C virus]
                                                                      1170
                                                                              0.0
gi|67810855|gb|AAY82015.1|
                             polyprotein [Hepatitis C virus]
                                                                      1169
                                                                              0.0
                                                                      1169
gi|67810853|gb|AAY82014.1|
                             polyprotein [Hepatitis C virus]
                                                                              0.0
                                                                      1168
                                                                              0.0
gi|67810868|gb|AAY82021.1|
                             polyprotein [Hepatitis C virus]
gi|67810883|gb|AAY82028.1|
                             polyprotein [Hepatitis C virus]
                                                                      1167
                                                                              0.0
                                                                                       G
gi|28921568|ref|NP 803144.1|
                               NS3 protease/helicase' [Hepatitis C
                                                                      1167
                                                                              0.0
gi|67810881|gb|AAY82027.1|
                             polyprotein [Hepatitis C virus]
                                                                      1167
                                                                              0.0
gi|67810887|gb|AAY82030.1|
                             polyprotein [Hepatitis C virus]
                                                                      1167
                                                                              0.0
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                                                                      1166
gi|67810844|gb|AAY82010.1|
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gi|67810870|gb|AAY82022.1|
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gi|67810851|gb|AAY82013.1|
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                                                                      1164
                                                                              0.0
gi|67810896|gb|AAY82034.1|
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gi|67810861|gb|AAY82018.1|
                             polyprotein [Hepatitis C virus]
                                                                      1163
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gi|67810894|gb|AAY82033.1|
                             polyprotein [Hepatitis C virus]
                                                                      1162
                                                                              0.0
                             polyprotein [Hepatitis C virus]
                                                                      1162
                                                                              0.0
gi|67810864|gb|AAY82019.1|
gi | 68012750 | gb | AAY84771.1 |
                             nonstructural protein 3 [Hepatitis C
                                                                      1161
                                                                              0.0
                             nonstructural protein 3 [Hepatitis...
                                                                      1161
gi|68012736|gb|AAY84764.1|
                                                                              0.0
                                                                      1161
                                                                              0.0
gi|67810898|gb|AAY82035.1|
                             polyprotein [Hepatitis C virus]
                                                                      1161
gi|67810892|gb|AAY82032.1|
                             polyprotein [Hepatitis C virus]
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gi|68012718|gb|AAY84755.1|
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                                                                      1161
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gi|68012706|gb|AAY84749.1|
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                                                                      1160
                                                                              0.0
gi|68012748|gb|AAY84770.1|
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                                                                      1160
                                                                              0.0
                             nonstructural protein 3 (Hepatitis C
gi|68012732|gb|AAY84762.1|
                                                                      1160
                                                                              0.0
                             nonstructural protein 3 [Hepatitis C
                                                                      1160
                                                                               0.0
gi|68012726|gb|AAY84759.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1159
                                                                               0.0
gi|68012712|gb|AAY84752.1|
                                                                      1159
                                                                               0.0
gi|68012752|gb|AAY84772.1|
                             nonstructural protein 3 [Hepatitis...
gi|68012708|gb|AAY84750.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1159
                                                                               0.0
                             nonstructural protein 3 [Hepatitis C
gi|68012698|gb|AAY84745.1|
                                                                      1159
                                                                               0.0
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gi|68012714|gb|AAY84753.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1158
                                                                              0.0
gi|68012746|gb|AAY84769.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1158
                                                                              0.0
gi|68012744|gb|AAY84768.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1158
                                                                              0.0
gi|67810890|gb|AAY82031.1|
                             polyprotein [Hepatitis C virus]
                                                                      1157
                                                                              0.0
gi|89519419|gb|ABD75831.1|
                             polyprotein [Hepatitis C virus]
                                                                      1157
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                                                                      1157
                                                                              0.0
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gi|68012710|gb|AAY84751.1|
                             nonstructural protein 3 (Hepatitis C
                                                                              0.0
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                             nonstructural protein 3 [Hepatitis C
                                                                      1156
                                                                              0.0
gi|68012740|gb|AAY84766.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1155
                                                                              0.0
gi|89519405|gb|ABD75824.1|
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                                                                      1155
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gi|89519409|gb|ABD75826.1|
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gi|68012694|gb|AAY84743.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1153
                                                                              0.0
gi|68012696|gb|AAY84744.1|
                             nonstructural protein 3 [Hepatitis C
                                                                      1153
                                                                              0.0
gi|67810885|gb|AAY82029.1|
                             polyprotein [Hepatitis C virus]
                                                                      1152
                                                                              0.0
                                                                      1151
                                                                              0.0
gi|89519413|gb|ABD75828.1|
                             polyprotein [Hepatitis C virus]
gi|89519407|gb|ABD75825.1|
                             polyprotein [Hepatitis C virus]
                                                                      1151
                                                                              0.0
gi|89519415|gb|ABD75829.1|
                             polyprotein [Hepatitis C virus]
                                                                      1150
                                                                              0.0
gi|89519411|gb|ABD75827.1|
                             polyprotein [Hepatitis C virus]
                                                                      1150
                                                                              0.0
                                                                      1150
gi|81924266|sp|091936|POLG
                            HCVSA Genome polyprotein [Contains...
                                                                              0.0
                                                                      1150
gi|68012734|gb|AAY84763.1|
                             nonstructural protein 3 [Hepatitis C
                                                                              0.0
                                                                      1149
gi|89519417|gb|ABD75830.1|
                             polyprotein [Hepatitis C virus]
                                                                              0.0
gi|3550759|dbj|BAA32664.1|
                             polyprotein [Hepatitis C virus (is...
                                                                      1146
                                                                              0.0
                             polyprotein [Hepatitis C virus]
                                                                      1145
                                                                              0.0
gi|73765377|gb|AAZ85046.1|
                             polyprotein [Hepatitis C virus subtyp
                                                                      1145
                                                                              0.0
gi|93102510|gb|ABE98157.1|
                             polyprotein [Hepatitis C virus subtyp
                                                                      1144
gi|93102504|gb|ABE98154.1|
                                                                              0.0
                             polyprotein [Hepatitis C virus subtyp
                                                                      1142
                                                                              0.0
gi|93102494|gb|ABE98149.1|
gi|81985682|sp|Q5I2N3|POLG HCV6A Genome polyprotein [Contains...
                                                                      1142
                                                                              0.0
                                                                      1142
gi|93102500|gb|ABE98152.1|
                             polyprotein [Hepatitis C virus subtyp
                                                                              0.0
gi|93102492|gb|ABE98148.1|
                             polyprotein [Hepatitis C virus subtyp
                                                                      1140
                                                                              0.0
                             polyprotein [Hepatitis C virus subtyp
gi|93102502|gb|ABE98153.1|
                                                                      1140
                                                                              0.0
                                                                              0.0
gi|93102514|gb|ABE98159.1|
                             polyprotein [Hepatitis C virus subtyp
                                                                      1139
                             polyprotein [Hepatitis C virus subtyp
                                                                      1139
                                                                              0.0
qi|93102496|gb|ABE98150.1|
                             polyprotein [Hepatitis C virus subtyp
                                                                      1138
                                                                              0.0
gi|93102512|gb|ABE98158.1|
                             polyprotein [Hepatitis C virus subtyp
                                                                      1138
                                                                              0.0
gi|93102508|gb|ABE98156.1|
                            fusion protein, composed of HCV p21...
                                                                              0.0
                                                                      1137
gi|469213|dbj|BAA05975.1|
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                                                                      1134
                                                                              0.0
gi|93102516|gb|ABE98160.1|
gi|3550761|dbj|BAA32665.1|
                             polyprotein [Hepatitis C virus (is...
                                                                      1134
                                                                              0.0
                             polyprotein [Hepatitis C virus subtyp
                                                                      1133
                                                                              0.0
gi|93102506|gb|ABE98155.1|
                             polyprotein [Hepatitis C virus (is...
gi|3550763|dbj|BAA32666.1|
                                                                      1133
                                                                              0.0
                             polyprotein [Hepatitis C virus subtyp
                                                                      1131
                                                                              0.0
gi|93102498|gb|ABE98151.1|
                                                                      1130
                                                                              0.0
gi|81921386|sp|039929|POLG HCVED Genome polyprotein [Contains...
                             polyprotein [Hepatitis C virus]
                                                                      1130
gi|62362180|gb|AAX81527.1|
                                                                              0.0
gi|82617874|gb|ABB84854.1|
                             polyprotein precursor [Hepatitis C vi
                                                                      1130
                                                                              0.0
                                                                      1129
gi|82617878|gb|ABB84856.1|
                             polyprotein precursor [Hepatitis C vi
                                                                              0.0
                             polyprotein precursor [Hepatitis C vi
                                                                      1129
                                                                              0.0
gi|82617876|gb|ABB84855.1|
gi|81921385|sp|039928|POLG
                            HCVEV
                                  Genome polyprotein [Contains...
                                                                      1127
                                                                              0.0
gi|81921384|sp|039927|POLG_HCVEU Genome polyprotein [Contains...
                                                                      1122
                                                                              0.0
                                                                      1121
                                                                              0.0
gi|3550765|dbj|BAA32667.1|
                             polyprotein [Hepatitis C virus (is...
                                                                              0.0
gi|1183031|dbj|BAA09891.1|
                             polyprotein [Hepatitis C virus (is...
                                                                      1121
gi|67810998|gb|AAY82049.1|
                             polyprotein [Hepatitis C virus]
                                                                      1120
                                                                              0.0
                             polyprotein [Hepatitis C virus]
                                                                      1120
gi|67810988|gb|AAY82044.1|
                                                                              0.0
                                                                      1120
gi|67811055|gb|AAY82077.1|
                             polyprotein [Hepatitis C virus]
                                                                              0.0
gi|67811050|gb|AAY82075.1|
                             polyprotein [Hepatitis C virus]
                                                                      1120
                                                                              0.0
gi|67811002|gb|AAY82051.1|
                             polyprotein [Hepatitis C virus]
                                                                      1120
                                                                              0.0
                                                                      1119
gi|67810992|gb|AAY82046.1|
                             polyprotein [Hepatitis C virus]
                                                                              0.0
                                                                      1119
                                                                              0.0
gi | 67810990 | gb | AAY82045.1 |
                             polyprotein [Hepatitis C virus]
                             polyprotein [Hepatitis C virus]
                                                                      1119
                                                                              0.0
gi|67810986|gb|AAY82043.1|
                                                                      1119
                                                                              0.0
gi|10120768|pdb|1CU1|B Chain B, Crystal Structure Of An Enzym...
gi | 67811008 | gb | AAY82054.1 |
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                                                                      1118
                                                                              0.0
gi|67811048|gb|AAY82074.1|
                             polyprotein [Hepatitis C virus]
                                                                      1118
                                                                               0.0
gi|67811012|gb|AAY82056.1|
                             polyprotein [Hepatitis C virus]
                                                                      1117
                                                                               0.0
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S

gi 67811016 gb AAY82058.1		[Hepatitis C virus]	$\frac{1117}{1}$	0.0
gi 67810994 gb AAY82047.1	polyprotein	[Hepatitis C virus]	1117	0.0
gi 67811057 gb AAY82078.1	polyprotein	[Hepatitis C virus]	1116	0.0
gi 67811004 gb AAY82052.1	polyprotein	[Hepatitis C virus]	$\overline{1116}$	0.0
gi 89113921 gb AAV75597.2		precursor [Hepatitis C vi	$\overline{1116}$	0.0
gi 67811030 gb AAY82065.1		[Hepatitis C virus]	1115	0.0
gi 67811024 gb AAY82062.1		[Hepatitis C virus]	$\frac{1115}{1115}$	0.0
		<del>-</del>		
gi 67810840 gb AAY82008.1		[Hepatitis C virus]	$\frac{1115}{1113}$	0.0
gi 67811046 gb AAY82073.1		[Hepatitis C virus]	1113	0.0
gi 67811026 gb AAY82063.1		[Hepatitis C virus]	<u>1113</u>	0.0
gi 67811061 gb AAY82080.1		[Hepatitis C virus]	<u>1113</u>	0.0
gi 67811022 gb AAY82061.1		[Hepatitis C virus]	1112	0.0
gi 67810982 gb AAY82041.1		[Hepatitis C virus]	<u>1112</u>	0.0
gi 67810836 gb AAY82006.1	polyprotein	[Hepatitis C virus]	<u>1112</u>	0.0
gi 67811059 gb AAY82079.1	polyprotein	[Hepatitis C virus]	1112	0.0
gi 67810978 gb AAY82039.1	polyprotein	[Hepatitis C virus]	1112	0.0
gi 67810834 gb AAY82005.1	polyprotein	[Hepatitis C virus]	$\overline{1112}$	0.0
gi 67810980 gb AAY82040.1		[Hepatitis C virus]	$\overline{1112}$	0.0
gi 51039136 gb AAT94264.1		[Hepatitis C virus]	$\overline{1111}$	0.0
gi 67811044 gb AAY82072.1		[Hepatitis C virus]	$\frac{1111}{1111}$	0.0
gi 67811034 gb AAY82067.1		[Hepatitis C virus]	$\frac{1111}{1110}$	0.0
gi 67811006 gb AAY82053.1		[Hepatitis C virus]	$\frac{1110}{1110}$	0.0
gi 67811040 gb AAY82070.1		[Hepatitis C virus]	$\frac{1110}{1110}$	0.0
gi 67810976 gb AAY82038.1		[Hepatitis C virus]	$\frac{1110}{1110}$	0.0
gi 51039172 gb AAT94275.1		[Hepatitis C virus]	$\frac{1110}{1110}$	0.0
gi 67811028 gb AAY82064.1		[Hepatitis C virus]	<u>1110</u>	0.0
gi 67810974 gb AAY82037.1		[Hepatitis C virus]	1110	0.0
gi 67810838 gb AAY82007.1		[Hepatitis C virus]	1110	0.0
gi 67811065 gb AAY82082.1	polyprotein	[Hepatitis C virus]	<u>1109</u>	0.0
gi 67811032 gb AAY82066.1	polyprotein	[Hepatitis C virus]	<u>1109</u>	0.0
gi 51039114 gb AAT94257.1	polyprotein	[Hepatitis C virus]	1108	0.0
gi 51039162 gb AAT94272.1	polyprotein	[Hepatitis C virus]	1108	0.0
gi 67811014 gb AAY82057.1		[Hepatitis C virus]	1108	0.0
gi 51039157 gb AAT94270.1		[Hepatitis C virus]	1107	0.0
gi 67810972 gb AAY82036.1		[Hepatitis C virus]	${1107}$	0.0
gi 51039183 gb AAT94280.1		[Hepatitis C virus]	1106	0.0
qi 51039191 qb AAT94283.1		[Hepatitis C virus]	$\frac{1100}{1106}$	0.0
gi 51039084 gb AAT94249.1		[Hepatitis C virus]	$\frac{1100}{1106}$	0.0
gi 67811063 gb AAY82081.1		[Hepatitis C virus]	$\frac{1100}{1106}$	0.0
gi 51039164 gb AAT94273.1		[Hepatitis C virus]	1105	0.0
gi 51039073 gb AAT94246.1		[Hepatitis C virus]	1105	0.0
gi 51039126 gb AAT94262.1		[Hepatitis C virus]	$\frac{1104}{1104}$	0.0
gi 51039189 gb AAT94282.1		[Hepatitis C virus]	$\frac{1104}{1102}$	0.0
gi 51039144 gb AAT94266.1		[Hepatitis C virus]	<u>1103</u>	0.0
gi 51039179 gb AAT94278.1		[Hepatitis C virus]	1102	0.0
gi 67811020 gb AAY82060.1		[Hepatitis C virus]	1102	0.0
gi 51039149 gb AAT94268.1		[Hepatitis C virus]	<u>1101</u>	0.0
gi 67811042 gb AAY82071.1	polyprotein	[Hepatitis C virus]	<u>1100</u>	0.0
gi 51039094 gb AAT94251.1	polyprotein	[Hepatitis C virus]	<u>1100</u>	0.0
gi 51039071 gb AAT94245.1	polyprotein	[Hepatitis C virus]	1098	0.0
gi 51039075 gb AAT94247.1	polyprotein	[Hepatitis C virus]	1098	0.0
gi 51039187 gb AAT94281.1		[Hepatitis C virus]	1097	0.0
gi 51039174 gb AAT94276.1		[Hepatitis C virus]	1095	0.0
gi 51039116 gb AAT94258.1		[Hepatitis C virus]	1093	0.0
gi 51039102 gb AAT94254.1		[Hepatitis C virus]	1093	0.0
gi 51039168 gb AAT94274.1		[Hepatitis C virus]	1090	0.0
gi 51039159 gb AAT94271.1		[Hepatitis C virus]	$\frac{1030}{1089}$	0.0
gi 51039099 gb AAT94253.1		[Hepatitis C virus]	1089	0.0
gi 51039099 gb AAT94253.1		[Hepatitis C virus]	1087	0.0
gi 90658415 gb ABD97104.1		[Hepatitis C virus]	1087	0.0
gi 2895899 gb AAC03058.1		[Hepatitis C virus]		0.0
911203303319D[AAC03030.1]	borabroceru	(mepacitis c vitus)	<u>1084</u>	0.0

<pre>gi 51039097 gb AAT94252.1  polyprotein [Hepatitis C virus]</pre>	1084	0.0
gi 633202 emb CAA54244.1  unnamed protein product [Hepatitis C v	1084	0.0
gi 1183029 dbj BAA04609.1  polyprotein [Hepatitis C virus (is	1084	0.0
gi 63079192 gb AAY29642.1  polyprotein [Hepatitis C virus]	1082	0.0
<pre>gi 51039118 gb AAT94259.1  polyprotein [Hepatitis C virus]</pre>	<u> 1081</u>	0.0
<pre>gi 51039086 gb AAT94250.1  polyprotein [Hepatitis C virus]</pre>	1080	0.0
<pre>gi 33413921 gb AAP55686.1  polyprotein [Hepatitis C virus]</pre>	<u> 1079</u>	0.0
<pre>gi 33413919 gb AAP55685.1  polyprotein [Hepatitis C virus]</pre>	1079	0.0
gi 558521 dbj BAA06044.1  polyprotein [Hepatitis C virus (iso	1079	0.0
<pre>gi 6521009 dbj BAA88057.1  polyprotein [Hepatitis C virus (is</pre>	1079	0.0
gi 51039082 gb AAT94248.1  polyprotein [Hepatitis C virus]		
	<u> 1079</u>	0.0
<pre>gi 33413925 gb AAP55688.1  polyprotein [Hepatitis C virus]</pre>	1078	0.0
gi 33413955 gb AAP55703.1  polyprotein [Hepatitis C virus]		0.0
	<u>1078</u>	
gi 33413935 gb AAP55693.1  polyprotein [Hepatitis C virus]	1078	0.0
gi 33413931 gb AAP55691.1  polyprotein [Hepatitis C virus]	1077	0.0
<pre>gi 33413957 gb AAP55704.1  polyprotein [Hepatitis C virus]</pre>	<u> 1077</u>	0.0
<pre>gi 33413945 gb AAP55698.1  polyprotein [Hepatitis C virus]</pre>	1076	0.0
<pre>gi 33413943 gb AAP55697.1  polyprotein [Hepatitis C virus]</pre>	1076	0.0
gi 33413939 gb AAP55695.1  polyprotein [Hepatitis C virus]	1076	0.0
<pre>gi 33413933 gb AAP55692.1  polyprotein [Hepatitis C virus]</pre>	<u>1075</u>	0.0
gi 33413941 gb AAP55696.1  polyprotein [Hepatitis C virus]	1075	0.0
gi 33413953 gb AAP55702.1  polyprotein [Hepatitis C virus]		0.0
	<u>1075</u>	
gi 51039122 gb AAT94261.1  polyprotein [Hepatitis C virus]	1074	0.0
gi 33413951 gb AAP55701.1  polyprotein [Hepatitis C virus]	1074	0.0
<pre>gi 9757542 dbj BAB08107.1  polyprotein [Hepatitis C virus (is</pre>	1073	0.0
<pre>gi 33413937 gb AAP55694.1  polyprotein [Hepatitis C virus]</pre>	1072	0.0
<pre>gi 33413929 gb AAP55690.1  polyprotein [Hepatitis C virus]</pre>	1072	0.0
gi 33413927 gb AAP55689.1  polyprotein [Hepatitis C virus]	1071	0.0
gi 130468 sp P26661 POLG_HCVJ8 Genome polyprotein [Contains:	<u> 1070</u>	0.0
gi 73765379 gb AAZ85047.1  polyprotein [Hepatitis C virus (isola	1070	0.0
gi 13122268 dbj BAB32875.1  polyprotein [Hepatitis C virus]	1069	0.0
gi:33413949 gb:AAP55700.1  polyprotein [Hepatitis C virus]	<u> 1069</u>	0.0
gi 33413947 gb AAP55699.1  polyprotein [Hepatitis C virus]	1066	0.0
<pre>gi 7329211 gb AAF59945.1  polyprotein [Hepatitis C virus]</pre>	<u> 1066</u>	0.0
gi 7329201 gb AAF59940.1  polyprotein [Hepatitis C virus]	1066	0.0
gi 51039133 gb AAT94263.1  polyprotein [Hepatitis C virus]	1066	0.0
gi 1435035 dbj BAA08372.1  polyprotein [Hepatitis C virus (is	1065	0.0
gi 6707280 gb AAF25610.1  polyprotein [Hepatitis C virus]	1065	0.0
<pre>gi 130466 sp P26660 POLG_HCVJ6</pre> Genome polyprotein [Contains:	<u> 1065</u>	0.0
gi 13122264 dbj BAB32873.1  polyprotein [Hepatitis C virus]	1064	0.0
gi 1483142 dbj BAA08911.1  polyprotein [Hepatitis C virus (is	<u>1064</u>	0.0
gi 7329203 gb AAF59941.1  polyprotein [Hepatitis C virus]	1063	0.0
gi 53680894 gb AAU89634.1  polyprotein [Hepatitis C virus]	1063	0.0
gi 1183033 dbj BAA09890.1  polyprotein [Hepatitis C virus (is	<u> 1063</u>	0.0
gi 6010580 gb AAF01178.1  polyprotein [Hepatitis C virus]	1062	0.0
<pre>gi 7329209 gb AAF59944.1  polyprotein [Hepatitis C virus]</pre>	1062	0.0
gi 6707286 gb AAF25613.1  polyprotein [Hepatitis C virus]	1062	0.0
gi 33413923 gb AAP55687.1  polyprotein [Hepatitis C virus]	1061	0.0
gi 6707282 gb AAF25611.1  polyprotein [Hepatitis C virus]	1061	0.0
gi 6707284 gb AAF25612.1  polyprotein [Hepatitis C virus]	1059	0.0
<pre>gi 13122274 dbj BAB32878.1  polyprotein [Hepatitis C virus]</pre>	<u> 1058</u>	0.0
gi 51039110 gb AAT94255.1  polyprotein [Hepatitis C virus]	1056	0.0
gi 51039142 gb AAT94265.1  polyprotein [Hepatitis C virus]	<u>1056</u>	0.0
gi 51039146 gb AAT94267.1  polyprotein [Hepatitis C virus]	1055	0.0
gi 2731656 gb AAB93504.1  polyprotein [Hepatitis C virus]	1055	0.0
gi 2731654 gb AAB93503.1  polyprotein [Hepatitis C virus]	<u> 1055</u>	0.0
gi 51039155 gb AAT94269.1  polyprotein [Hepatitis C virus]	1055	0.0
<pre>gi 51039177 gb AAT94277.1  polyprotein [Hepatitis C virus] &gt;g</pre>	<u> 1054</u>	0.0
gi 13122272 dbj BAB32877.1  polyprotein [Hepatitis C virus]	1052	0.0
gi 51039120 gb AAT94260.1  polyprotein [Hepatitis C virus]	1051	0.0
- marrial /// //// / mmarrial // // // 11 moltmorphore [Homofitia C **** mag]	1050	0.0
<pre>gi 13122270 dbj BAB32876.1  polyprotein [Hepatitis C virus]</pre>	1000	0.0

gi 13122266 dbj BAB32874.1  polyprotein [Hepatitis C virus]	1049	0.0	
gi 7329207 gb AAF59943.1  polyprotein [Hepatitis C virus]	1049	0.0	
<pre>gi 51039067 gb AAT94244.1  polyprotein [Hepatitis C virus] gi 7329205 gb AAF59942.1  polyprotein [Hepatitis C virus]</pre>	$\frac{1048}{1048}$	0.0 0.0	
gi 51039195 gb AAT94284.1  polyprotein [Hepatitis C virus]	1046	0.0	
<pre>gi 13122262 dbj BAB32872.1  polyprotein [Hepatitis C virus (i</pre>	1043	0.0	
gi 40714446 dbj BAD06942.1  hepatitis C virus nonstructural prot	1039	0.0	
<pre>qi 5689746 emb CAB51915.1  HCV nonstructure protein 3 [Hepatitis gi 82706169 gb ABB89469.1  non-structural protein 3 [Hepatitis C</pre>	1031 966	0.0 0.0	
gi 78096359 emb CAJ20168.1  non structural protein 3 [Hepatitis	925	0.0	
gi 78096333 emb CAJ20155.1  non structural protein 3 [Hepatitis	915	0.0	
gi 2443429 gb AAB88251.1  polyprotein [Hepatitis C virus]	912	0.0	
<pre>gi 78096361 emb CAJ20169.1  non structural protein 3 [Hepatitis gi 78096353 emb CAJ20165.1  non structural protein 3 [Hepatitis</pre>	911 911	0.0 0.0	
gi 78096339 emb CAJ20158.1  non structural protein 3 [Hepatitis	906	0.0	
gi 78096335 emb CAJ20156.1  non structural protein 3 [Hepatitis	893	0.0	
gi 78096365 emb CAJ20171.1  non structural protein 3 [Hepatitis	884	0.0	
<pre>gi 78096355 emb CAJ20166.1  non structural protein 3 [Hepatitis gi 78096373 emb CAJ20175.1  non structural protein 3 [Hepatitis</pre>	<u>883</u> 880	0.0 0.0	
gi 78096341 emb CAJ20159.1  non structural protein 3 [Hepatitis	880	0.0	
gi 78096369 emb CAJ20173.1  non structural protein 3 [Hepatitis	880	0.0	
gi 78096331 emb CAJ20154.1  non structural protein 3 [Hepatitis	880	0.0	
gi 78096371 emb CAJ20174.1  non structural protein 3 [Hepatitis gi 78096323 emb CAJ20150.1  non structural protein 3 [Hepatitis	<u>879</u> 879	0.0 0.0	
gi 78096343 emb CAJ20160.1  non structural protein 3 [Hepatitis	<del>877</del>	0.0	
gi 78096363 emb CAJ20170.1  non structural protein 3 [Hepatitis	877	0.0	
gi 78096337 emb CAJ20157.1  non structural protein 3 [Hepatitis	876	0.0	
gi 78096347 emb CAJ20162.1  non structural protein 3 [Hepatitis gi 78096357 emb CAJ20167.1  non structural protein 3 [Hepatitis	<u>875</u> 875	0.0 0.0	
gi 78096367 emb CAJ20172.1  non structural protein 3 [Hepatitis	874	0.0	
gi 4389394 pdb 1A1V A Chain A, Hepatitis C Virus Ns3 Helicase	872	0.0	S
gi 78096325 emb CAJ20151.1  non structural protein 3 [Hepatitis	870	0.0	
gi 78096351 emb CAJ20164.1  non structural protein 3 [Hepatitis	870	0.0	
gi 78096345 emb CAJ20161.1  non structural protein 3 [Hepatitis gi 78096349 emb CAJ20163.1  non structural protein 3 [Hepatitis	870 867	0.0 0.0	
gi 78096329 emb CAJ20153.1  non structural protein 3 [Hepatitis	863	0.0	
gi 67811010 gb AAY82055.1  polyprotein [Hepatitis C virus]	861	0.0	
gi 78096327 emb CAJ20152.1  non structural protein 3 [Hepatitis	859	0.0	
gi 3745801 pdb 1HEI B Chain B, Structure Of The Hepatitis C V	852	0.0	S
<pre>gi 5616215 gb AAD45674.1  NS3 helicase [Hepatitis C virus] gi 5616217 gb AAD45675.1  NS3 helicase [Hepatitis C virus]</pre>	814 811	0.0 0.0	
gi 5031420 gb AAD38162.1  polyprotein [Hepatitis C virus]	811	0.0	
<pre>gi 5616212 gb AAD45673.1  NS3 helicase [Hepatitis C virus]</pre>	808	0.0	
<u>gi 1372955 gb AAB02124.1 </u> N\$3 gene product gi 1303664 gb AAB02125.1  polyprotein	808 799	0.0 0.0	
			s
gi 83755049 pdb 2F55 C Chain C, Two Hepatitis C Virus Ns3 Hel	<u>794</u> 787	0.0	S
gi 4930270 pdb 80HM  Crystal Structure Of Rna Helicase From gi 793912 gb AAA65789.1  precursor protein	708	0.0 0.0	
gi 221620 dbj BAA03177.1  NS3-4 protein [Hepatitis C virus]	699	0.0	
gi 5353561 gb AAD42179.1  superoxide dismutase/HCV major epit	<u>535</u>	2e-150	
gi 2731650 gb AAB93501.1  polyprotein [Hepatitis C virus] gi 2731652 gb AAB93502.1  polyprotein [Hepatitis C virus]	<u>519</u> 502	2e-145 2e-140	
gi 765334 gb AAB31751.1  c33-c antigen [Hepatitis C virus]	496	1e-138	
gi 221622 dbj BAA03178.1  NS3 protein [Hepatitis C virus]	488	5e-136	
<u>gi 2160336 dbj BAA01515.1 </u> ORF 1 [Hepatitis C virus]	484	7e-135	
<pre>gi 4433101 dbj BAA20994.1  NS3 protein [Hepatitis C virus] gi 2660971 gb AAB88162.1  polyprotein [Hepatitis C virus]</pre>	472 461	2e-131 4e-128	
gi 2660969 gb AAB88161.1  polyprotein [Hepatitis C virus] >gi	460	9e-128	
gi 2660977 gb AAB88165.1  polyprotein [Hepatitis C virus]	459	1e-127	
<pre>gi 2660983 gb AAB88168.1  polyprotein [Hepatitis C virus]</pre>	<u>459</u>	2e-127	

Gal   2660945   gb   AAB88163.1   golyprotein   (Hepatitis C virus)   458   3e-127   gil   2660979   gb   AAB88166.1   golyprotein   (Hepatitis C virus)   458   4e-127   gil   2660953   gb   AAB88153.1   golyprotein   (Hepatitis C virus)   458   4e-127   gil   2660955   gb   AAB88154.1   golyprotein   (Hepatitis C virus)   458   5e-127   gil   2660967   gb   AAB88152.1   golyprotein   (Hepatitis C virus)   458   5e-127   gil   2660967   gb   AAB88152.1   golyprotein   (Hepatitis C virus)   458   5e-127   gil   2660967   gb   AAB88152.1   golyprotein   (Hepatitis C virus)   458   5e-127   gil   2660967   gb   AAB88157.1   golyprotein   (Hepatitis C virus)   457   7e-127   gil   2660961   gb   AAB88144.1   golyprotein   (Hepatitis C virus)   456   2e-126   gil   2660933   gb   AAB88145.1   golyprotein   (Hepatitis C virus)   456   2e-126   gil   2660939   gb   AAB88155.1   golyprotein   (Hepatitis C virus)   456   2e-126   gil   2660939   gb   AAB88155.1   golyprotein   (Hepatitis C virus)   456   2e-126   gil   2660959   gb   AAB88155.1   golyprotein   (Hepatitis C virus)   456   2e-126   gil   2660929   gb   AAB88156.1   golyprotein   (Hepatitis C virus)   456   2e-126   gil   2660929   gb   AAB88156.1   golyprotein   (Hepatitis C virus)   456   2e-126   gil   2660929   gb   AAB881614.1   golyprotein   (Hepatitis C virus)   456   4e-127   golyprotein   (Hepatitis C virus)   456   2e-126   golyprotein   (Hepatitis C virus)   456   4e-127   golyprotein   (Hepatitis C virus)   456   2e-126   golyprotein   (Hepatitis C virus)   457   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450   450					
gil 2660973   gbl AAB88163.1   gil 2660973   gbl AAB88166.1   gil 2660979   gbl AAB88158.1   gil 2660973   gbl AAB88158.1   golyprotein [Hepatitis C virus]         458   4e-127   458   458   4e-127	gi 2660957 gb AAB88155.1	polyprotein	[Hepatitis C virus]	459	2e-127
qil 2660979   gbl AAB88166.11         polyprotein [Hepatitis C virus]         458         4e-127           qil 26609953   gbl AAB88155.11         polyprotein [Hepatitis C virus]         458         4e-127           qil 2660955   gbl AAB88154.11         polyprotein [Hepatitis C virus]         458         4e-127           qil 2660951   gbl AAB88155.1.1         polyprotein [Hepatitis C virus]         458         5e-127           qil 2660957   gbl AAB88155.1.1         polyprotein [Hepatitis C virus]         458         5e-127           qil 2660949   gbl AAB88155.1.1         polyprotein [Hepatitis C virus]         457         5e-127           qil 2660951   gbl AAB88144.1.1         polyprotein [Hepatitis C virus]         456         2e-126           qil 2660951   gbl AAB88143.1.1         polyprotein [Hepatitis C virus]         456         2e-126           qil 2660933   gbl AAB88145.1.1         polyprotein [Hepatitis C virus]         456         2e-126           qil 2660939   gbl AAB88145.1.1         polyprotein [Hepatitis C virus]         456         2e-126           qil 2660959   gbl AAB88145.1.1         polyprotein [Hepatitis C virus]         455         3e-126           qil 2660929   gbl AAB88146.1.1         polyprotein [Hepatitis C virus]         453         1e-126           qil 2660927   gbl AAB88146.1.1         polyprotein [Hepatitis C virus]	gi 2660945 gb AAB88149.1	polyprotein	[Hepatitis C virus]	459	3e-127
qi 2660963 qb AAB88158.1          polyprotein [Hepatitis C virus]         458         4e-127           qi 2660955 qb AAB88153.1          polyprotein [Hepatitis C virus]         458         4e-127           qi 2660955 qb AAB88155.1          polyprotein [Hepatitis C virus]         458         5e-127           qi 2660951 qb AAB88152.1          polyprotein [Hepatitis C virus]         458         5e-127           qi 2660949 qb AAB88152.1          polyprotein [Hepatitis C virus]         457         5e-127           qi 266093 qb AAB88144.1          polyprotein [Hepatitis C virus]         457         7e-127           qi 2660931 qb AAB88157.1          polyprotein [Hepatitis C virus]         456         2e-126           qi 2660931 qb AAB88143.1          polyprotein [Hepatitis C virus]         456         2e-126           qi 2660931 qb AAB88146.1          polyprotein [Hepatitis C virus]         456         2e-126           qi 2660931 qb AAB88146.1          polyprotein [Hepatitis C virus]         455         3e-126           qi 2660931 qb AAB88144.1          polyprotein [Hepatitis C virus]         454         6e-126           qi 2660991 qb AAB88144.1          polyprotein [Hepatitis C virus]         454         8e-124           qi 2660941 qb AAB88147.1          polyprotein [Hepatitis C virus]         455         3e-125	gi 2660973 gb AAB88163.1	polyprotein	[Hepatitis C virus]	458	3e-127
gi   2660953   gb   AAB88153.1   gi   2660955   gb   AAB88154.1   gi   2660955   gb   AAB88154.1   golyprotein   (Hepatitis C virus)   458   5e-127   gi   2660967   gb   AAB88160.1   golyprotein   (Hepatitis C virus)   457   5e-127   gi   2660949   gb   AAB88151.1   golyprotein   (Hepatitis C virus)   457   5e-127   gi   2660945   gb   AAB88151.1   golyprotein   (Hepatitis C virus)   456   2e-126   gi   2660931   gb   AAB88144.1   golyprotein   (Hepatitis C virus)   456   2e-126   gi   2660933   gb   AAB88145.1   golyprotein   (Hepatitis C virus)   456   2e-126   gi   2660939   gb   AAB88145.1   golyprotein   (Hepatitis C virus)   456   2e-126   gi   2660939   gb   AAB88146.1   golyprotein   (Hepatitis C virus)   454   5e-126   gi   2660929   gb   AAB88159.1   golyprotein   (Hepatitis C virus)   454   6e-126   gi   2660943   gb   AAB88148.1   golyprotein   (Hepatitis C virus)   454   6e-126   gi   2660943   gb   AAB88140.1   golyprotein   (Hepatitis C virus)   453   1e-125   gi   2660941   gb   AAB88140.1   golyprotein   (Hepatitis C virus)   452   3e-125   gi   2660941   gb   AAB88161.1   golyprotein   (Hepatitis C virus)   451   6e-125   gi   2660941   gb   AAB88161.1   golyprotein   (Hepatitis C virus)   452   3e-125   gi   2660941   gb   AAB88164.1   golyprotein   (Hepatitis C virus)   450   1e-124   gi   221653   db   BAA28500.1   golyprotein   (Hepatitis C virus)   448   5e-124   gi   221653   db   BAA28501.1   golyprotein   (Hepatitis C virus)   407   1e-111   gi   3157750   db   BAA28501.1   golyprotein   (Hepatitis C virus)   408   2e-110   golyprotein   (Hepatitis C virus)   407   1e-111   gi   315774   (db   BAA28502.1   golyprotein   (Hepatitis C virus)   408   2e-110   golyprotein   (Hepatitis C virus)   400   1e-109   gi   33090378   gb   AAP57528.1   golyprotein   (Hepatitis C virus)   400   1e-109   gi   33090378   gb   AAP57528.1   golyprotein   (Hepatitis C virus)   400   1e-109   gi   326002   golyprotein   (Hepatitis C virus)   400   1e-109   gi   326002   golyprotein	gi 2660979 gb AAB88166.1	polyprotein	[Hepatitis C virus]	458	4e-127
qi   2660955   qb   AAB88154.11         polyprotein [Hepatitis C virus]         458         5e-127           qi   2660951   qb   AAB88152.11         polyprotein [Hepatitis C virus]         458         5e-127           qi   2660949   qb   AAB88151.11         polyprotein [Hepatitis C virus]         457         7e-127           qi   2660935   qb   AAB88144.11         polyprotein [Hepatitis C virus]         456         2e-126           qi   2660931   qb   AAB88143.11         polyprotein [Hepatitis C virus]         456         2e-126           qi   2660937   qb   AAB88145.11         polyprotein [Hepatitis C virus]         456         2e-126           qi   2660937   qb   AAB88145.11         polyprotein [Hepatitis C virus]         455         3e-126           qi   2660939   qb   AAB88146.11         polyprotein [Hepatitis C virus]         455         3e-126           qi   2660959   qb   AAB88144.11         polyprotein [Hepatitis C virus]         454         5e-126           qi   2660951   qb   AAB88144.11         polyprotein [Hepatitis C virus]         454         8e-126           qi   2660931   qb   AAB88144.11         polyprotein [Hepatitis C virus]         454         8e-126           qi   2660921   qb   AAB88144.11         polyprotein [Hepatitis C virus]         452         3e-125           qi   2660921   qb   AAB88144.11         polyprotein [Hepatitis C virus	gi 2660963 gb AAB88158.1	polyprotein	[Hepatitis C virus]	458	4e-127
gi   2660951   gb   AAB88152.1   gi   2660967   gb   AAB88160.1   gi   2660949   gb   AAB88151.1   polyprotein [Hepatitis C virus]         458   5e-127   5e-127   5e   2660935   gb   AAB88144.1   polyprotein [Hepatitis C virus]         457   5e-127   5e-127   5e-127   5e-127   5e-127   5e-128   5e-128   5e-126	gi 2660953 gb AAB88153.1	polyprotein	[Hepatitis C virus]	458	4e-127
gi   2660967   gb   AAB88160.1         polyprotein [Hepatitis C virus]         457         5e-127           gi   2660949   gb   AAB88151.1         polyprotein [Hepatitis C virus]         456         2e-126           gi   2660931   gb   AAB88144.1         polyprotein [Hepatitis C virus]         456         2e-126           gi   2660933   gb   AAB88143.1         polyprotein [Hepatitis C virus]         456         2e-126           gi   2660937   gb   AAB88145.1         polyprotein [Hepatitis C virus]         456         2e-126           gi   2660939   gb   AAB88146.1         polyprotein [Hepatitis C virus]         455         3e-126           gi   2660959   gb   AAB88146.1         polyprotein [Hepatitis C virus]         454         5e-126           gi   2660959   gb   AAB88141.1         polyprotein [Hepatitis C virus]         454         6e-126           gi   2660929   gb   AAB88141.1         polyprotein [Hepatitis C virus]         453         1e-125           gi   2660921   gb   AAB88141.1         polyprotein [Hepatitis C virus]         453         1e-125           gi   2660921   gb   AAB88141.1         polyprotein [Hepatitis C virus]         452         3e-125           gi   2660921   gb   AAB88164.1         polyprotein [Hepatitis C virus]         451         6e-125           gi   2660927   gb   AAB88164.1         polyprotein [Hepatitis C virus]	gi 2660955 gb AAB88154.1	polyprotein	[Hepatitis C virus]	458	5e-127
qi   2660949   gb   AAB88151.1           polyprotein [Hepatitis C virus]         457         7e-127           qi   2660935   gb   AAB88144.1           polyprotein [Hepatitis C virus]         456         2e-126           qi   2660931   gb   AAB88143.1           polyprotein [Hepatitis C virus]         456         2e-126           qi   2660937   gb   AAB88145.1           polyprotein [Hepatitis C virus]         456         2e-126           qi   2660939   gb   AAB88146.1           polyprotein [Hepatitis C virus]         455         3e-126           qi   2660959   gb   AAB88146.1           polyprotein [Hepatitis C virus]         454         5e-126           qi   2660959   gb   AAB88141.1           polyprotein [Hepatitis C virus]         454         6e-126           qi   2660929   gb   AAB88141.1           polyprotein [Hepatitis C virus]         453         1e-125           qi   2660927   gb   AAB88148.1           polyprotein [Hepatitis C virus]         452         3e-125           qi   2660927   gb   AAB88147.1           polyprotein [Hepatitis C virus]         451         6e-125           qi   2660927   gb   AAB88143.1           polyprotein [Hepatitis C virus]         451         6e-125           qi   2660941   gb   AAB88143.1           polyprotein [Hepatitis C virus]         451         6e-125           qi   2660941   gb   AAB88164.1           polyprotein [Hepa	gi 2660951 gb AAB88152.1	polyprotein	[Hepatitis C virus]	458	5e-127
qi 2660935 gb AAB88144.1          polyprotein [Hepatitis C virus]         456         2e-126           qi 2660961 gb AAB88157.1          polyprotein [Hepatitis C virus]         456         2e-126           qi 2660937 gb AAB88143.1          polyprotein [Hepatitis C virus]         456         2e-126           qi 2660937 gb AAB88145.1          polyprotein [Hepatitis C virus]         455         3e-126           qi 2660959 gb AAB88156.1          polyprotein [Hepatitis C virus]         454         5e-126           qi 2660929 gb AAB88159.1          polyprotein [Hepatitis C virus]         454         6e-126           qi 2660929 gb AAB88148.1          polyprotein [Hepatitis C virus]         453         1e-126           qi 2660943 qb AAB88148.1          polyprotein [Hepatitis C virus]         453         1e-125           qi 2660941 qb AAB88167.1          polyprotein [Hepatitis C virus]         451         6e-125           qi 266097 qb AAB88148.1          polyprotein [Hepatitis C virus]         451         6e-125           qi 266097 qb AAB88149.1          polyprotein [Hepatitis C virus]         451         6e-125           qi 266097 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 266097 qb AAB88164.1          polyprotein [Hepatitis C virus]         490         5e-124 <th< td=""><td>gi 2660967 gb AAB88160.1 </td><td>polyprotein</td><td>[Hepatitis C virus]</td><td>457</td><td>5e-127</td></th<>	gi 2660967 gb AAB88160.1	polyprotein	[Hepatitis C virus]	457	5e-127
gi 2660961 gb AAB88157.1          polyprotein [Hepatitis C virus]         456         2e-126           gi 2660933 gb AAB88143.1          polyprotein [Hepatitis C virus]         456         2e-126           gi 2660937 gb AAB88145.1          polyprotein [Hepatitis C virus]         455         3e-126           gi 2660939 gb AAB88156.1          polyprotein [Hepatitis C virus]         454         5e-126           gi 2660959 gb AAB88159.1          polyprotein [Hepatitis C virus]         454         6e-126           gi 2660929 gb AAB88141.1          polyprotein [Hepatitis C virus]         453         1e-125           gi 2660921 gb AAB88148.1          polyprotein [Hepatitis C virus]         453         1e-125           gi 2660921 gb AAB88140.1          polyprotein [Hepatitis C virus]         452         3e-125           gi 2660927 gb AAB88140.1          polyprotein [Hepatitis C virus]         451         6e-125           gi 2660941 gb AAB88147.1          polyprotein [Hepatitis C virus]         450         1e-124           gi 2660941 gb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           gi 3157746 db BAA28501.1          polyprotein [Hepatitis C virus]         407         1e-111           gi 3157750 db BAA28503.1          polyprotein [Hepatitis C virus]         403         2e-110	gi 2660949 gb AAB88151.1	polyprotein	[Hepatitis C virus]	457	7e-127
qi 2660933 gb AAB88143.1          polyprotein [Hepatitis C virus]         456         2e-126           qi 2660937 gb AAB88145.1          polyprotein [Hepatitis C virus]         455         3e-126           qi 2660959 gb AAB88146.1          polyprotein [Hepatitis C virus]         454         5e-126           qi 2660959 gb AAB88156.1          polyprotein [Hepatitis C virus]         454         6e-126           qi 2660929 gb AAB88141.1          polyprotein [Hepatitis C virus]         453         1e-125           qi 2660921 gb AAB88148.1          polyprotein [Hepatitis C virus]         453         1e-125           qi 2660921 gb AAB88164.1          polyprotein [Hepatitis C virus]         451         6e-126           qi 2660927 qb AAB88164.1          polyprotein [Hepatitis C virus]         452         3e-125           qi 2660927 qb AAB88164.1          polyprotein [Hepatitis C virus]         451         6e-125           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         444         7e-123           qi 3157746 dbj BAA28501.1          polyprotein [Hepatitis C virus]         407         1e-111           qi 3157750 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         1e-110	gi 2660935 gb AAB88144.1	polyprotein	[Hepatitis C virus]	456	2e-126
gi 2660937 gb AAB88145.1          polyprotein [Hepatitis C virus]         455         3e-126           gi 2660939 gb AAB88146.1          polyprotein [Hepatitis C virus]         454         5e-126           gi 2660959 gb AAB88159.1          polyprotein [Hepatitis C virus]         454         6e-126           gi 2660929 gb AAB88149.1          polyprotein [Hepatitis C virus]         453         1e-125           gi 2660943 qb AAB88148.1          polyprotein [Hepatitis C virus]         452         3e-125           gi 2660941 qb AAB88140.1          polyprotein [Hepatitis C virus]         451         6e-125           gi 2660941 qb AAB88140.1          polyprotein [Hepatitis C virus]         450         1e-124           gi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           gi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           gi 21653 db BAA28500.1          polyprotein [Hepatitis C virus]         407         1e-111           gi 3157746 db BAA28500.1          polyprotein [Hepatitis C virus]         406         2e-111           gi 3157750 db BAA28505.1          polyprotein [Hepatitis C virus]         403         1e-110           gi 3157742 db BAA28500.1          polyprotein [Hepatitis C virus]         403         2e-110           <	gi 2660961 gb AAB88157.1	polyprotein	[Hepatitis C virus]	456	2e-126
qi 2660939 gb AAB88146.1          polyprotein [Hepatitis C virus]         454         5e-126           qi 2660959 gb AAB88156.1          polyprotein [Hepatitis C virus]         454         6e-126           qi 2660929 gb AAB88159.1          polyprotein [Hepatitis C virus]         454         8e-126           qi 2660929 gb AAB88141.1          polyprotein [Hepatitis C virus]         453         1e-125           qi 2660943 gb AAB88168.1          polyprotein [Hepatitis C virus]         452         3e-125           qi 2660947 qb AAB88167.1          polyprotein [Hepatitis C virus]         450         1e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88167.1          polyprotein [Hepatitis C virus]         407         1e-111           qi 315774 qb jBAA28501.1          polyprotein [Hepatitis C virus]         406         2e-111           qi 3157750 qb JBAA28503.1          polyprotein [Hepatitis C virus]         403         2e-110	gi 2660933 gb AAB88143.1	polyprotein	[Hepatitis C virus]	456	2e-126
gil2660959 gb AAB88156.1          polyprotein [Hepatitis C virus]         454         6e-126           gil2660965 gb AAB88159.1          polyprotein [Hepatitis C virus]         454         8e-126           gil2660929 gb AAB88141.1          polyprotein [Hepatitis C virus]         453         1e-125           gil2660943 gb AAB88148.1          polyprotein [Hepatitis C virus]         451         6e-125           gil2660927 gb AAB88167.1          polyprotein [Hepatitis C virus]         451         6e-125           gil2660941 gb AAB88147.1          polyprotein [Hepatitis C virus]         450         1e-124           gil2660975 gb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           gil221653 dbj BAA28501.1          polyprotein [Hepatitis C virus]         444         7e-123           gil3157744 dbj BAA28501.1          polyprotein [Hepatitis C virus]         407         1e-111           gil3157750 dbj BAA28503.1          polyprotein [Hepatitis C virus]         405         3e-110           gil3157740 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         1e-110           gil3157740 dbj BAA28502.1          polyprotein [Hepatitis C virus]         403         1e-110           gil3157748 dbj BAA28502.1          polyprotein [Hepatitis C virus]         402         4e-110	gi 2660937 gb AAB88145.1	polyprotein	[Hepatitis C virus]	455	3e-126
qi 2660965 qb AAB88159.1          polyprotein [Hepatitis C virus]         454         8e-126           qi 2660929 qb AAB88141.1          polyprotein [Hepatitis C virus]         453         1e-125           qi 2660943 qb AAB88148.1          polyprotein [Hepatitis C virus]         452         3e-125           qi 2660981 qb AAB88167.1          polyprotein [Hepatitis C virus]         450         1e-124           qi 266097 qb AAB88140.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         444         7e-123           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         444         7e-123           qi 21653 db BAA02670.1          polyprotein [Hepatitis C virus]         404         7e-123           qi 3157746 db BAA028501.1          polyprotein [Hepatitis C virus]         407         1e-111           qi 3157750 db BAA028503.1          polyprotein [Hepatitis C virus]         405         3e-111           qi 3157740 db BAA028505.1          polyprotein [Hepatitis C virus]         403         1e-110           qi 3157740 db BAA028498.1          polyprotein [Hepatitis C virus]         402         4e-110           qi 3157740 db BAA028499.1          polyprotein [Hepatitis C virus]         401         5e-100	gi 2660939 gb AAB88146.1	polyprotein	[Hepatitis C virus]	454	5e-126
gi 2660929 gb AAB88141.1          polyprotein [Hepatitis C virus]         453         1e-125           gi 2660943 gb AAB88148.1          polyprotein [Hepatitis C virus]         452         3e-125           gi 2660981 gb AAB88167.1          polyprotein [Hepatitis C virus]         451         6e-125           gi 2660927 gb AAB88140.1          polyprotein [Hepatitis C virus]         450         1e-124           gi 2660975 gb AAB88164.1          polyprotein [Hepatitis C virus]         448         5e-124           gi 221653 db BAA02670.1          polyprotein [Hepatitis C virus]         434         5e-120           gi 3157746 db BAA028501.1          polyprotein [Hepatitis C virus]         407         1e-111           gi 3157752 db BAA028504.1          polyprotein [Hepatitis C virus]         405         3e-111           gi 3157750 db BAA028503.1          polyprotein [Hepatitis C virus]         405         3e-111           gi 3157740 db BAA028505.1          polyprotein [Hepatitis C virus]         403         1e-110           gi 3157740 db BAA028502.1          polyprotein [Hepatitis C virus]         403         2e-110           gi 3157748 db BAA028502.1          polyprotein [Hepatitis C virus]         401         5e-10           gi 3157748 db BAA028502.1          polyprotein [Hepatitis C virus]         401         5e-110	gi 2660959 gb AAB88156.1	polyprotein	[Hepatitis C virus]	454	6e-126
qi 2660943 qb AAB88148.1          polyprotein [Hepatitis C virus]         452         3e-125           qi 2660981 qb AAB88167.1          polyprotein [Hepatitis C virus]         451         6e-125           qi 2660927 qb AAB88140.1          polyprotein [Hepatitis C virus]         450         1e-124           qi 2660941 qb AAB88147.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         444         7e-123           qi 21653 db BAA02670.1          polyprotein [Hepatitis C virus]         407         1e-111           qi 3157746 db BAA028500.1          polyprotein [Hepatitis C virus]         406         2e-111           qi 3157750 db BAA028500.1          polyprotein [Hepatitis C virus]         403         2e-111           qi 3157754 db BAA028503.1          polyprotein [Hepatitis C virus]         403         2e-110           qi 3157754 db BAA028503.1          polyprotein [Hepatitis C virus]         403         2e-110           qi 3157740 db BAA028503.1          polyprotein [Hepatitis C virus]         403         2e-110           qi 3157748 db BAA028502.1          polyprotein [Hepatitis C virus]         401         5e-110           qi 3157748 db BAA028502.1          polyprotein [Hepatitis C virus]         400         1e-109	gi 2660965 gb AAB88159.1	polyprotein	[Hepatitis C virus]	454	8e-126
qi 2660981 qb AAB88167.1          polyprotein [Hepatitis C virus]         451         6e-125           qi 2660927 qb AAB88140.1          polyprotein [Hepatitis C virus]         450         1e-124           qi 2660941 qb AAB88147.1          polyprotein [Hepatitis C virus]         448         5e-124           qi 2660975 qb AAB88164.1          polyprotein [Hepatitis C virus]         444         7e-123           qi 21653 dbj BAA02670.1          polyprotein [Hepatitis C virus]         407         1e-111           qi 3157746 dbj BAA285001.1          polyprotein [Hepatitis C virus]         406         2e-111           qi 3157750 dbj BAA28500.1          polyprotein [Hepatitis C virus]         405         3e-111           qi 3157750 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         1e-110           qi 3157754 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         2e-110           qi 3157740 dbj BAA28498.1          polyprotein [Hepatitis C virus]         403         2e-110           qi 3157742 dbj BAA28499.1          polyprotein [Hepatitis C virus]         401         5e-110           qi 3157748 dbj BAA28502.1          polyprotein [Hepatitis C virus]         401         5e-110           qi 3157748 dbj BAA28502.1          polyprotein [Hepatitis C virus]         400         1e-109	gi 2660929 gb AAB88141.1	polyprotein	[Hepatitis C virus]	453	1e-125
gi 2660927 gb AAB88140.1          polyprotein [Hepatitis C virus]         450         1e-124           gi 2660941 gb AAB88147.1          polyprotein [Hepatitis C virus]         448         5e-124           gi 2660975 gb AAB88164.1          polyprotein [Hepatitis C virus]         444         7e-123           gi 221653 dbj BAA02670.1          polyprotein [Hepatitis C virus]         407         1e-111           gi 3157746 dbj BAA28501.1          polyprotein [Hepatitis C virus]         406         2e-111           gi 3157752 dbj BAA28500.1          polyprotein [Hepatitis C virus]         405         3e-111           gi 3157750 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         1e-110           gi 3157754 dbj BAA28505.1          polyprotein [Hepatitis C virus]         403         2e-110           gi 3157740 dbj BAA28498.1          polyprotein [Hepatitis C virus]         402         4e-110           gi 3157748 dbj BAA28502.1          polyprotein [Hepatitis C virus]         401         5e-110           gi 33090378 gb AAP57528.1          polyprotein [Hepatitis C virus]         400         1e-109           gi 33090378 gb AAP57528.1          polyprotein [Hepatitis GB virus B]         400         2e-109           gi 9628102 ref NP_056931.1          polyprotein [Hepatitis GB virus B]         400         2e-109	gi 2660943 gb AAB88148.1	polyprotein	[Hepatitis C virus]	452	3e-125
gi 2660941 gb AAB88147.1          polyprotein [Hepatitis C virus]         448         5e-124           gi 2660975 gb AAB88164.1          polyprotein [Hepatitis C virus]         444         7e-123           gi 221653 dbj BAA02670.1          polyprotein [Hepatitis C virus]         407         1e-111           gi 3157746 dbj BAA28501.1          polyprotein [Hepatitis C virus]         406         2e-111           gi 3157752 dbj BAA28500.1          polyprotein [Hepatitis C virus]         405         3e-111           gi 3157750 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         1e-110           gi 3157754 dbj BAA28505.1          polyprotein [Hepatitis C virus]         403         2e-110           gi 3157740 dbj BAA28498.1          polyprotein [Hepatitis C virus]         402         4e-110           gi 3157742 dbj BAA28499.1          polyprotein [Hepatitis C virus]         401         5e-110           gi 3157748 dbj BAA28502.1          polyprotein [Hepatitis C virus]         400         1e-109           gi 33090378 gb AAF57528.1          polyprotein [Synthetic construct]         400         1e-109           gi 3628102 ref NP 056931.1          polyprotein [Hepatitis GB virus B]         400         2e-109           gi 21727887 emb CAD21957.1          polyprotein [Hepatitis GB virus B]         400         2e-109 </td <td>gi 2660981 gb AAB88167.1 </td> <td>polyprotein</td> <td>[Hepatitis C virus]</td> <td>451</td> <td>6e-125</td>	gi 2660981 gb AAB88167.1	polyprotein	[Hepatitis C virus]	451	6e-125
gi 2660975 gb AAB88164.1        polyprotein [Hepatitis C virus]       444       7e-123         gi 221653 db BAA02670.1        polyprotein [Hepatitis C virus genotyp       434       5e-120         gi 3157746 db BAA28501.1        polyprotein [Hepatitis C virus]       407       1e-111         gi 3157752 db BAA28504.1        polyprotein [Hepatitis C virus]       406       2e-111         gi 3157744 db BAA28500.1        polyprotein [Hepatitis C virus]       405       3e-111         gi 3157750 db BAA28503.1        polyprotein [Hepatitis C virus]       403       1e-110         gi 3157740 db BAA28505.1        polyprotein [Hepatitis C virus]       403       2e-110         gi 3157742 db BAA28498.1        polyprotein [Hepatitis C virus]       402       4e-110         gi 3157748 db BAA28499.1        polyprotein [Hepatitis C virus]       401       5e-110         gi 3157748 db BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [Synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 21727887 emb CAD21957.1        polyprotein [Hepatitis GB virus B       400       2e-109	gi 2660927 gb AAB88140.1	polyprotein	[Hepatitis C virus]	450	1e-124
gi 221653 dbj BAA02670.1          polyprotein [Hepatitis C virus genotyp         434         5e-120           gi 3157746 dbj BAA28501.1          polyprotein [Hepatitis C virus]         407         1e-111           gi 3157752 dbj BAA28504.1          polyprotein [Hepatitis C virus]         406         2e-111           gi 3157744 dbj BAA28500.1          polyprotein [Hepatitis C virus]         405         3e-111           gi 3157750 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         1e-110           gi 3157754 dbj BAA28505.1          polyprotein [Hepatitis C virus]         403         2e-110           gi 3157742 dbj BAA28498.1          polyprotein [Hepatitis C virus]         401         5e-110           gi 3157748 dbj BAA28502.1          polyprotein [Hepatitis C virus]         400         1e-109           gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:         400         1e-109           gi 33090378 gb AAP57528.1          polyprotein [Synthetic construct]         400         1e-109           gi 3162188 emb CAC33083.1          polyprotein [Hepatitis GB virus B]         400         2e-109           gi 21727887 emb CAD21957.1          polyprotein [Hepatitis GB virus B         400         2e-109	gi 2660941 gb AAB88147.1	polyprotein	[Hepatitis C virus]	448	5e-124
gi 3157746 dbj BAA28501.1          polyprotein [Hepatitis C virus]         407         1e-111           gi 3157752 dbj BAA28504.1          polyprotein [Hepatitis C virus]         406         2e-111           gi 3157744 dbj BAA28500.1          polyprotein [Hepatitis C virus]         403         3e-111           gi 3157750 dbj BAA28503.1          polyprotein [Hepatitis C virus]         403         2e-110           gi 3157740 dbj BAA28505.1          polyprotein [Hepatitis C virus]         402         4e-110           gi 3157742 dbj BAA28498.1          polyprotein [Hepatitis C virus]         401         5e-110           gi 3157748 dbj BAA28499.1          polyprotein [Hepatitis C virus]         401         5e-110           gi 3157748 dbj BAA28502.1          polyprotein [Hepatitis C virus]         400         1e-109           gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:         400         1e-109           gi 33090378 gb AAP57528.1          polyprotein [Hepatitis GB virus B]         400         2e-109           gi 9628102 ref NP 056931.1          polyprotein [Hepatitis GB virus B         400         2e-109           gi 21727887 emb CAD21957.1          polyprotein [Hepatitis GB virus B         400         2e-109	gi 2660975 gb AAB88164.1	polyprotein	[Hepatitis C virus]	444	7e-123
gi 3157752 dbj BAA28504.1        polyprotein [Hepatitis C virus]       406       2e-111         gi 3157744 dbj BAA28500.1        polyprotein [Hepatitis C virus]       405       3e-111         gi 3157750 dbj BAA28503.1        polyprotein [Hepatitis C virus]       403       1e-110         gi 3157754 dbj BAA28505.1        polyprotein [Hepatitis C virus]       403       2e-110         gi 3157740 dbj BAA28498.1        polyprotein [Hepatitis C virus]       402       4e-110         gi 3157742 dbj BAA28499.1        polyprotein [Hepatitis C virus]       401       5e-110         gi 3157748 dbj BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 221653 dbj BAA02670.1	polyprotein	[Hepatitis C virus genotyp	434	5e-120
gi 3157744 dbj BAA28500.1        polyprotein [Hepatitis C virus]       405       3e-111         gi 3157750 dbj BAA28503.1        polyprotein [Hepatitis C virus]       403       1e-110         gi 3157754 dbj BAA28505.1        polyprotein [Hepatitis C virus]       403       2e-110         gi 3157740 dbj BAA28498.1        polyprotein [Hepatitis C virus]       402       4e-110         gi 3157742 dbj BAA28499.1        polyprotein [Hepatitis C virus]       401       5e-110         gi 3157748 dbj BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 3157746 dbj BAA28501.1	polyprotei	n [Hepatitis C virus]	407	1e-111
gi 3157750 dbj BAA28503.1        polyprotein [Hepatitis C virus]       403       1e-110         gi 3157754 dbj BAA28505.1        polyprotein [Hepatitis C virus]       403       2e-110         gi 3157740 dbj BAA28498.1        polyprotein [Hepatitis C virus]       402       4e-110         gi 3157742 dbj BAA28499.1        polyprotein [Hepatitis C virus]       401       5e-110         gi 3157748 dbj BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 3157752 dbj BAA28504.1	polyproteir	n [Hepatitis C virus]	406	2e-111
gi 3157754 dbj BAA28505.1        polyprotein [Hepatitis C virus]       403       2e-110         gi 3157740 dbj BAA28498.1        polyprotein [Hepatitis C virus]       402       4e-110         gi 3157742 dbj BAA28499.1        polyprotein [Hepatitis C virus]       401       5e-110         gi 3157748 dbj BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 3157744 dbj BAA28500.1	polyproteir	n [Hepatitis C virus]	405	3e-111
gi 3157740 dbj BAA28498.1        polyprotein [Hepatitis C virus]       402       4e-110         gi 3157742 dbj BAA28499.1        polyprotein [Hepatitis C virus]       401       5e-110         gi 3157748 dbj BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 3157750 dbj BAA28503.1	polyproteir	n [Hepatitis C virus]	403	1e-110
gi 3157742 dbj BAA28499.1        polyprotein [Hepatitis C virus]       401       5e-110         gi 3157748 dbj BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 13162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 3157754 dbj BAA28505.1	polyproteir	n [Hepatitis C virus]	403	2e-110
gi 3157748 dbj BAA28502.1        polyprotein [Hepatitis C virus]       400       1e-109         gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 3157740 dbj BAA28498.1	polyprotein	n [Hepatitis C virus]	402	4e-110
gi 68565638 sp Q69422 POLG GBVB Genome polyprotein [Contains:       400       1e-109         gi 33090378 gb AAP57528.1  polyprotein [synthetic construct]       400       1e-109         gi 3162188 emb CAC33083.1  polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1  gi 21727887 emb CAD21957.1  non-structural polyprotein [Hepatitis GB virus B]       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatitis GB virus B]       397       8e-109	gi 3157742 dbj BAA28499.1	polyprotein	n [Hepatitis C virus]	401	5e-110
gi 33090378 gb AAP57528.1        polyprotein [synthetic construct]       400       1e-109         gi 13162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B       400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti       397       8e-109	gi 3157748 dbj BAA28502.1	polyproteir	n [Hepatitis C virus]	400	1e-109
gi 13162188 emb CAC33083.1        polyprotein [Hepatitis GB virus B]       400       2e-109         gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B 400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti 397       8e-109	gi 68565638 sp Q69422 POLG	<u>GBVB</u> Genome	e polyprotein [Contains:	400	1e-109
gi 9628102 ref NP 056931.1        polyprotein [Hepatitis GB virus B 400       2e-109         gi 21727887 emb CAD21957.1        non-structural polyprotein [Hepatiti 397       8e-109	gi 33090378 gb AAP57528.1	polyprotein	n [synthetic construct]	400	1e-109
gi 21727887 emb CAD21957.1  non-structural polyprotein [Hepatiti 397 8e-109	gi 13162188 emb CAC33083.1	<pre>polyprote:</pre>	in [Hepatitis GB virus B]	400	2e-109
gi 21727887 emb CAD21957.1  non-structural polyprotein [Hepatiti 397 8e-109	gi 9628102 ref NP 056931.1	polyprote:	in [Hepatitis GB virus B	400	2e-109
	gi 3157802 dbj BAA28529.1			396	2e-108

#### Alignments

Deselect all

Distance tree of results

Select all

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>\[ \frac{\text{gi|130455|sp|P26664|POLG HCV1}}{\text{C0}} \] \] Genome polyprotein [Contains: Core protein p21 (Caps: C) (p21); Core protein p19; Envelope glycoprotein E1 (gp32) (gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7; Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin) (NS3P) (p70); Nonstructural protein 4A (NS4A) (p8); Nonstructural protein 4B (NS4B) (p27); Nonstructural protein 5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)] \[ \frac{\text{gi|329874|gb|AAA45676.1|}}{\text{gi|329874|gb|AAA45676.1|}} \] HCV-1 \] Length=3011

Score = 1302 bits (3370), Expect = 0.0, Method: Composition-based stats. Identities = 683/685 (99%), Positives = 683/685 (99%), Gaps = 0/685 (0%)

Query 1 \[ \text{APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG} \] 60
\[ \text{APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG} \] 60
```

Sbjct 1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG

Get selected sequences

1086

G

Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

>  $\frac{\text{gi}|14532249|\text{gb}|\text{AAK66556.1}|}{\text{gi}|14532247|\text{gb}|\text{AAK66555.1}|}$  HCV type 1a/1b chimera polyprotein [synthetic construct]  $\frac{\text{gi}|14532245|\text{gb}|\text{AAK66555.1}|}{\text{gi}|14532245|\text{gb}|\text{AAK66554.1}|}$  HCV type 1a/1b chimera polyprotein [synthetic construct] Length=3011

Score = 1302 bits (3370), Expect = 0.0, Method: Composition-based stats. Identities = 683/685 (99%), Positives = 683/685 (99%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbict	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

# $> \frac{\text{gi}|8926245|\text{gb}|\text{AAF81759.1}|}{\text{Length}=3011}$ polyprotein [Hepatitis C virus]

Score = 1301 bits (3366), Expect = 0.0, Method: Composition-based stats. Identities = 682/685 (99%), Positives = 683/685 (99%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240

		·	
Sbjct	1207	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360 .
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYQEFDEMEEC 1711	

# $> \Gamma$ gi|14532251|gb|AAK66557.1| HCV type 1a/1b chimera mutant polyprotein [synthetic cor Length=3011

Score = 1299 bits (3362), Expect = 0.0, Method: Composition-based stats. Identities = 681/685 (99%), Positives = 682/685 (99%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct .	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQSFQVAHLHAPTGSG +TKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGAATKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

### $> \Gamma gi|329876|gb|AAA45677.1|$ polyprotein Length=2436

Score = 1297 bits (3357), Expect = 0.0, Method: Composition-based stats. Identities = 683/685 (99%), Positives = 683/685 (99%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	577	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	636
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	637	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	696
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	697	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	756
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	757	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	816
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	817	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	876
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	877	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	936
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420

Sbjct	937	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	996
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	997	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1056
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1057	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1116
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1117	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1176
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVONEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1177	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1236
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1237	VLSGKPAIIPDREVLYREFDEMEEC 1261	

# $> \Gamma gi|63079188|gb|AAY29640.1|$ polyprotein [Hepatitis C virus] Length=2889

Score = 1287 bits (3331), Expect = 0.0, Method: Composition-based stats. Identities = 672/685 (98%), Positives = 681/685 (99%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIOMYTNVDODLVGWPAPOG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGVFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPOSFOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVA+G+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVAMGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506

Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct '	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKOSGENLPYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVONE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

# $> \sqrt{\frac{gi|55275808|gb|AAV49742.1|}{bength=2742}}$ polyprotein [Hepatitis C virus]

Score = 1286 bits (3329), Expect = 0.0, Method: Composition-based stats. Identities = 673/685 (98%), Positives = 679/685 (99%), Gaps = 0/685 (0%)

Ident	ities =	= 673/685 (98%), Positives = 679/685 (99%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTI+T TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIDTSTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

Sbjct	1567	HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627		1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

### $> \boxed{gi|48479030|gb|AAT44836.1|}$ polyprotein [Hepatitis C virus] Length=2908

Score = 1286 bits (3328), Expect = 0.0, Method: Composition-based stats. Identities = 670/685 (97%), Positives = 680/685 (99%), Gaps = 0/685 (0%)

raenc	16162	- 0707003 (978), FOSICIVES - 0007003 (998), Gaps - 07003 (08)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGE+QIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEIQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTN+DQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNIDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVI+GR+	660
Sbjct	1627	RLGAVQNEVTLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIIGRI	1686 ,

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPA+IPDREVLYREFDEMEEC Sbjct 1687 VLSGKPAVIPDREVLYREFDEMEEC 1711

Score = 1286 bits (3328), Expect = 0.0, Method: Composition-based stats. Identities = 670/685 (97%), Positives = 678/685 (98%), Gaps = 0/685 (0%)

		•	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVSTDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYQEFDEMEEC 1711	

> gi|6010588|gb|AAF01182.1| polyprotein [synthetic construct] gi|6010584|gb|AAF01180.1| polyprotein [synthetic construct] Length=3015

Score = 1285 bits (3324), Expect = 0.0, Method: Composition-based stats. Identities = 669/685 (97%), Positives = 677/685 (98%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG Sbjct 1031 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG 1090 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1091 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG 1150 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENL TTMR 1151 DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLGTTMR Sbjct 1210 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 240 SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1211 1270 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 1271 YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Sbjct 1330 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 Query LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK 1331 LGIGTVLDOAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEVIK 1390 Sbjct 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG Sbjct GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVSTDALMTGFTG 1450 1391 480 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtgrgKPGIYRFVAPGE Query DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE Sbjct 1451 1510 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 481 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Sbjct 1511 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 1570 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Query 541 HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1571 HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1630 Sbjct Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvgqvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+ 1631 RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI 1690 Sbjct Query 661 VLSGKPAIIPDREVLYREFDEMEEC VLSGKPAIIPDREVLY+EFDEMEEC 1691 VLSGKPAIIPDREVLYQEFDEMEEC Sbjct 1715

<sup>&</sup>gt;  $\frac{\text{gi}|6010586|\text{gb}|\text{AAF01181.1}|}{\text{gi}|6010582|\text{gb}|\text{AAF01179.1}|}$  polyprotein [synthetic construct] Length=3015

		·	
		5 bits (3324), Expect = 0.0, Method: Composition-based stats. = 669/685 (97%), Positives = 677/685 (98%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG	60
Sbjct	1031	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG	1090
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1091	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1150
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENL TTMR	180
Sbjct	1151	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLGTTMR	1210
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1211	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1270
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1271	YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1330
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1331	LGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEVIK	1390
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420
Sbjct	1391	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVSTDALMTGFTG	1450
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1451	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1510
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1511	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1570
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1571	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1630
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1631	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1690
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1691	VLSGKPAIIPDREVLYQEFDEMEEC 1715	

#### $> \frac{\text{Gi}|9930557|\text{gb}|\text{AAG02099.1}|}{\text{Length}=3011}$ polyprotein [Hepatitis C virus]

Score = 1284 bits (3322), Expect = 0.0, Method: Composition-based stats. Identities = 669/685 (97%), Positives = 677/685 (98%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60
APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG
Sbjct 1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG 1086

Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRR+G	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRQG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPASGDVVVV+IDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFD VIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDPVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHPVTKYIMTCMSA+ EVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPVTKYIMTCMSANPEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYQEFDEMEEC 1711	

### $> \Gamma gi|2327071|gb|AAB67036.1|$ polyprotein [Hepatitis C virus strain H77] Length=3011

Score = 1283 bits (3321), Expect = 0.0, Method: Composition-based stats. Identities = 669/685 (97%), Positives = 677/685 (98%), Gaps = 0/685 (0%)

Query Sbjct	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG	60 1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct Ouerv	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG dsrgsllsprPISYLKGSSGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1146

Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENL TTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLGTTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVFTDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYQEFDEMEEC 1711	

### $> \Gamma gi|63079190|gb|AAY29641.1|$ polyprotein [Hepatitis C virus] Length=2885

Score = 1283 bits (3321), Expect = 0.0, Method: Composition-based stats. Identities = 673/685 (98%), Positives = 678/685 (98%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
		APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq	120
_		TRTIASPKGPVIQMYTNVDQDLVGWPAPOG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
		DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	
Sbict	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
00,00		POWODE POR TO LE MODO COL PEDÍTIONI VOLL MENVOL MOVINGIA PEL LA POPELLIMA	1200
Query	181	SPVFTDNSSPPVVPQSFOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Query	101	SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
C)	1007		
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMS+AHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSRAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTGGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

### $> \Gamma gi|55275810|gb|AAV49743.1|$ polyprotein [Hepatitis C virus] Length=2742

Score = 1282 bits (3318), Expect = 0.0, Method: Composition-based stats. Identities = 670/685 (97%), Positives = 676/685 (98%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360

Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALSTTGEIPFYGKAIPLE IK	1206
SDJCL	1321	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLV LGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVVLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Query	421	DFDSVIDCNTCVTQTVDFSLDFTFTI+ TLPQDAVSTQRRGRTGRGKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTI+ TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	400
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIDISTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Chiat	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Sbjct	1307	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1200
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
-			
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEVTLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
2uor j	002	VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

#### $> \frac{\text{Gi} | 63079194 | \text{gb} | \text{AAY29643.1}|}{\text{Length=2883}}$ polyprotein [Hepatitis C virus]

Score = 1281 bits (3315), Expect = 0.0, Method: Composition-based stats. Identities = 669/685 (97%), Positives = 678/685 (98%), Gaps = 0/685 (0%)

		0.00, 0.00 (5.00, 1.00 (5.00, 0.00 (5.00, 0.00 (5.00, 0.00 (5.00, 0.00 (5.00, 0.00 (5.00)))))	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVOIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPOS+OVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTDATS+	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSV	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQ E+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQTEVTLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYREFDEMEEC 1711	

### $> \frac{\text{Gi}|2327075|\text{gb}|\text{AAB67038.1}|}{\text{Length}=3011}$ polyprotein [Hepatitis C virus strain H77]

Score = 1280 bits (3312), Expect = 0.0, Method: Composition-based stats. Identities = 667/685 (97%), Positives = 675/685 (98%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY OOTRGLLGCIITSLTGRDKNOVEGEVOIVSTA OTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYTQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIOMYTNVDODLVGWPAPOGSRSL PCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLAPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENL TTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLGTTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVSTDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540

Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVONE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYQEFDEMEEC 1711	

### $> \Gamma gi|9843677|emb|CAC03609.1|$ unnamed protein product [Hepatitis C virus] Length=3011

Score = 1278 bits (3308), Expect = 0.0, Method: Composition-based stats. Identities = 666/685 (97%), Positives = 677/685 (98%), Gaps = 0/685 (0%)

raent	ıcıes	= 600/603 (9/8), Positives = 6/7/603 (908), Gaps = 0/603 (08)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAV+F+PVENLETTMR	180
Sbjct	1147	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVEFVPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSAPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITTSTTGKFLADGGCSGGATDITTCDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPH NIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPH NIEEVALSTIGEIPFIGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCD+LAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDDLAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDF3LDFTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDS+VLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSAVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHG TPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHG TPLLY	1626

Query	601	<del></del>	LEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV LE+VTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPVTKYIMTCMSADI	JEIVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC VLSGKP IIPD+EVLYREFDEMEEC	685	
Sbjct	1687	VLSGKPPIIPDQEVLYREFDEMEEC	1711	

### $> \Gamma$ gi|221587|dbj|BAA01582.1| polyprotein precursor [Hepatitis C virus] Length=3011

Score = 1278 bits (3308), Expect = 0.0, Method: Composition-based stats. Identities = 665/685 (97%), Positives = 674/685 (98%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITATAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGH VGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHVVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATS+	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSV	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGS+TVPH NIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSITVPHANIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSS+LCECYD GCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSILCECYDTGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLYHIDAHFLSQTKQ GEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQGGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQ E+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	660
Sbjct	1627	RLGAVQGEVTLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	

VLSG+PAIIPDREVLYREFDEMEEC
Sbjct 1687 VLSGRPAIIPDREVLYREFDEMEEC 1711

#### $> \Gamma gi|63079186|gb|AAY29639.1|$ polyprotein [Hepatitis C virus] Length=2889

Score = 1278 bits (3308), Expect = 0.0, Method: Composition-based stats. Identities = 669/685 (97%), Positives = 676/685 (98%), Gaps = 0/685 (0%) Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Sbjct 1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 1086 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg Query 120 TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG  ${\tt TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG}$ 1087 Sbjct 1146 Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR Sbjct 1147  ${\tt DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR}$ 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Sbjct 1267 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 1326 Query 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQ ETAGARLVVLATATPPGSVTVPH NIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQXETAGARLVVLATATPPGSVTVPHXNIEEVALSTTGEIPFYGKAIPLEAIK Sbjct 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKLV LGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLVTLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG 1446 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE Query 480 DFDSVIDCN CVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE Sbjct 1447 DFDSVIDCNICVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE 1506 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Query 481 540 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 1507  ${\tt RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT}$ Sbjct 1566 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 601 Query RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+ 1627 RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI Sbjct 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLYREFDEMEEC 1687 ILSGKPAIIPDREVLYREFDEMEEC Sbjct 1711

 $<sup>&</sup>gt; \Gamma \underline{gi|2327073|gb|AAB67037.1|}$  polyprotein [Hepatitis C virus strain H77] Length=3011

Score = 1278 bits (3308), Expect = 0.0, Method: Composition-based stats. Identities = 667/685 (97%), Positives = 675/685 (98%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCIITSLT RDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG Sbjct 1027 APITAYAQQTRGLLGCIITSLTSRDKNQVEGEVQIVSTATOTFLATCINGVCWTVYHGAG 1086 61 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq 120 TRTIASPKGPVIOMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG 1087 Sbjct TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENL TTMR Sbjct 1147 DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLGTTMR 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDN SPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1207 SPVFTDNPSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Sbjct 1267 YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 1326 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query 360 LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEVIK 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVSTDALMTGFTG 1446 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 Query DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE 1506 Sbjct 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 1566 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Query HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1567 HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1626  $\verb"RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV"$ 601 660 Query RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+ Sbjct 1627 RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI 1686 661 VLSGKPAIIPDREVLYREFDEMEEC 685 Query VLSGKPAIIPDREVLY+EFDEMEEC Sbjct 1687 VLSGKPAIIPDREVLYQEFDEMEEC

#### $> \Gamma gi|63079196|gb|AAY29644.1|$ polyprotein [Hepatitis C virus] Length=2889

Score = 1275 bits (3300), Expect = 0.0, Method: Composition-based stats. Identities = 668/685 (97%), Positives = 676/685 (98%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60
APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIV TAAQTFLATCINGVCWTVYHGAG

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Sbjct
       1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVXTAAQTFLATCINGVCWTVYHGAG
                                                                            1086
       61
Query
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                            120
             TRTIASPKGPVIQM TNV+QDL+GWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
       1087
Sbjct
             TRTIASPKGPVIQMXTNVNQDLLGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            1146
             dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
       121
                                                                            180
             DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR
Sbjct
       1147
             DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR
                                                                            1206
       181
Query
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
             SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       1207
             SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            1266
Query
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Sbjct
       1267
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            1326
       301
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
Query
                                                                            360
             LGIGTVLDQAETAGARLVVLATATPPGS TVPHPNIEEVALSTTGEIPFYGKAIPLE IK
       1327
             LGIGTVLDQAETAGARLVVLATATPPGSXTVPHPNIEEVALSTTGEIPFYGKAIPLETIK
Sbjct
                                                                            1386
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
       361
                                                                            420
Query
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP
                                                        GDVVVVATDALMTG+TG
       1387
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG
Sbjct
                                                                            1446
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtgrrgrtgrgKPGIYRFVAPGE
Query
       421
                                                                            480
             DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE
Sbjct
       1447
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE
                                                                            1506
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            540
Query
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
       1507
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            1566
Sbjct
                                                                            600
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Query
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct
       1567
                                                                            1626
       601
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV
                                                                            660
Query
             RLGAVONE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+
       1627
             RLGAVONEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI
                                                                            1686
Sbjct
Query
       661
             VLSGKPAIIPDREVLYREFDEMEEC
                                        685
              LSGKPAIIPDREVLYREFDEMEEC
       1687 XLSGKPAIIPDREVLYREFDEMEEC 1711
Sbjct
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Score = 1268 bits (3281), Expect = 0.0, Method: Composition-based stats. Identities = 663/685 (96%), Positives = 672/685 (98%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60

Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQ YTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQTYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP GHAVG+FRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPTGHAVGLFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAA+GYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAKGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLAD GCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADAGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK GIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	SGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVSTDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHL FWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLGFWEGVFTGLT HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1566
Query	541 1567	HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQM KCLIRLKPTLHGPTPLLY	600
Sbjct Query	601	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMRKCLIRLKPTLHGPTPLLY	1626 660
_	1627	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGR+	
Sbjct	661	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRI VLSGKPAIIPDREVLYREFDEMEEC 685	1686
Query		VLSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYQEFDEMEEC 1711	

### $> \Gamma gi|63079184|gb|AAY29638.1|$ polyprotein [Hepatitis C virus] Length=2882

Score = 1263 bits (3268), Expect = 0.0, Method: Composition-based stats. Identities = 661/685 (96%), Positives = 674/685 (98%), Gaps = 0/685 (0%)

Query Sbjct	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60 1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIA+PKGPVIQMYTNVDQDLVGWPAPQG+RSLTPC CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIATPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCACGSSDLYLVTRHADVIPVRRRG	1146

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query <sup>.</sup>	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSK HG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKCHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPH NIEEVALSTTGEIPFYGKAIPLE+IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHSNIEEVALSTTGEIPFYGKAIPLELIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSK+KC++LAAKLVA G+NAVAYYRGLDVSVIP G+VVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKRKCEDLAAKLVAQGVNAVAYYRGLDVSVIPTSGNVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE +FDSVIDCNTCVTQTVDFSLDPTF IET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	EFDSVIDCNTCVTQTVDFSLDPTFAIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541 .	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEVTLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLSTGCVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLYREFDEMEEC 1711	

### $> \frac{\text{gi} | 7650260 | \text{gb} | \text{AAF} | 65961.1 |}{\text{Length} = 3010}$ polyprotein [Hepatitis C virus]

Score = 1234 bits (3193), Expect = 0.0, Method: Composition-based stats. Identities = 636/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NG CWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP GSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHIVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240

Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTG RTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300
Sbjct	1267	YMSKAHGIDPNIRTGARTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDENTEVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGRPAIIPDREVLYQEFDEMEEC 1711	

## $> \Gamma gi|11559457|dbj|BAB18808.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1234 bits (3193), Expect = 0.0, Method: Composition-based stats. Identities = 635/685 (92%), Positives = 668/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query .	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELATKLVALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQN++TLTHPVTK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNDVTLTHPVTKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGRPAIIPDREVLYQEFDEMEEC 1711	

### $> \Gamma gi|7650232|gb|AAF65947.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1233 bits (3190), Expect = 0.0, Method: Composition-based stats. Identities = 633/685 (92%), Positives = 668/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITATYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKST+VPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTRVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHP+IEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPSIEEVALSNTGEIPFYGKAIPIEVIK	1386
Ouerv	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420

		GGRHLIFCHSKKKCDELAAKL ALGINAV+YYRGLDVSVIP GDVVVVATDALMTGYTG	
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGINAVSYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTOTVDFSLDPTFTIET T+PODAVSR+ORRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVONEITLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDRE LY+EFDEMEEC	
Sbjct	1687	ILSGRPAIIPDREALYQEFDEMEEC 1711	

### $> \boxed{\text{gi}|5918947|\text{gb}|AAD56189.1|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1233 bits (3189), Expect = 0.0, Method: Composition-based stats. Identities = 634/685 (92%), Positives = 667/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV OMYTNVDODLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPVTQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPLGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE+IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEIIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506

Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCM+ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMAADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1687	TLSGRPAIIPDREVLYQEFDEMEEC 1711	

#### $> \Box gi|5918965|gb|AAD56198.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1232 bits (3188), Expect = 0.0, Method: Composition-based stats. Identities = 634/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP GH VGIFRAAVCTRGVAKAVDFIPVE++ET+MR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPLGHVVGIFRAAVCTRGVAKAVDFIPVESMETSMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE ALS TGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEAALSNTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA+KL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELASKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

```
HIDAHFLSOTKO+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKP LHGPTPLLY
Sbjct
       1567
             HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPVLHGPTPLLY
                                                                            1626
       601
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV
                                                                            660
Query
             RLGAVQNEITLTHP+TK+IMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
       1627
             RLGAVQNEITLTHPITKFIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                            1686
Sbjct
       661
             VLSGKPAIIPDREVLYREFDEMEEC
                                       685
Query
             +LSG+PAIIPDREVLYREFDEMEEC
Sbjct
       1687
             ILSGRPAIIPDREVLYREFDEMEEC
> | gi|130458|sp|P26663|POLG HCVBK | Genome polyprotein [Contains: Core protein p21 (Caps
C) (p21); Core protein p19; Envelope glycoprotein E1 (gp32)
(qp35); Envelope glycoprotein E2 (NS1) (qp68) (qp70); p7;
Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin)
(NS3P) (p70); Nonstructural protein 4A (NS4A) (p8);
Nonstructural protein 4B (NS4B) (p27); Nonstructural protein
5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)]
 qi|329771|qb|AAA72945.1| [Hepatitis C virus core, matrix, envelope and non-structural
protein RNA.], gene product
Length=3010
 Score = 1232 bits (3188), Expect = 0.0, Method: Composition-based stats.
 Identities = 631/685 (92%), Positives = 667/685 (97%), Gaps = 0/685 (0%)
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Query
             APITAY+OOTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG
       1027 APITAYSOOTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG
                                                                            1086
Sbict
                                                                            120
             TRTIASPKGPVIOMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
Query
       61
             ++T+A+PKGP+ OMYTNVDODLVGWP P G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            1146
             SKTLAAPKGPITQMYTNVDQDLVGWPKPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       1087
                                                                            180
Query
       121
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
             DSRGSLLSPRP+SYLKGSSGGPLLCP GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR
             {\tt DSRGSLLSPRPVSYLKGSSGGPLLCPFGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR}
                                                                            1206
       1147
Sbjct
             SPVFTDNSSPPVVPOSFOVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                             240
       181
Query
             SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            1266
             SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
       1207
Sbjct
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                             300
       241
Query
             YMSKAHGIDPNIRTGVRTITTG+P+TYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I
             YMSKAHGIDPNIRTGVRTITTGAPVTYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI
                                                                             1326
Sbict
       1267
             \verb|LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK|
                                                                             360
       301
Query
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E I+
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIR
                                                                            1386
Sbict
       1327
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                             420
Query
       361
             GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP IGDVVVVATDALMTGYTG
```

GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPTIGDVVVVATDALMTGYTG

DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE

DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1446

480

1506

540

1566

Sbjct

Query

Sbjct

Query

Sbjct

1387

421

1447

481

Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAI+PDRE+LY+EFDEMEEC	
Sbjct	1687	ILSGRPAIVPDRELLYQEFDEMEEC 1711	

## $> \frac{\text{gi}|12831193|\text{gb}|AAK08509.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus type 1b]

Score = 1232 bits (3187), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 667/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG+P+TYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGAPVTYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E I+	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIR	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP IGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPTIGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660

RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
Sbjct 1627 RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685
+LSG+PAI+PDRE+LY+EFDEMEEC
Sbjct 1687 ILSGRPAIVPDRELLYQEFDEMEEC 1711

## $> \Gamma gi|7650246|gb|AAF65954.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1232 bits (3187), Expect = 0.0, Method: Composition-based stats. Identities = 635/685 (92%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPVIQMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPVIQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKA+G+DPNIRTGVRTITTG+ ITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI YMSKAYGVDPNIRTGVRTITTGASITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWD MWKCL RLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDLMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPAIIPDREVLYREFDEMEEC ILSGKPAIIPDREVLYREFDEMEEC 1711	

### $> \frac{\text{gi}|5918945|\text{gb}|AAD56188.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1232 bits (3187), Expect = 0.0, Method: Composition-based stats. Identities = 634/685 (92%), Positives = 668/685 (97%), Gaps = 0/685 (0%) Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG 1027 Sbjct APITAYSQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 ++T+A PKGPV QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 SKTLAGPKGPVTQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 Query DSRGSLLSPRP+SYLKGSSGGPLLCP GHAVG+FRAAVCTRGVAKAVDFIPVE++ETTMR 1147 DSRGSLLSPRPVSYLKGSSGGPLLCPLGHAVGVFRAAVCTRGVAKAVDFIPVESMETTMR Sbjct 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 Sbjct Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI Sbjct 1267 1326 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE+IK 1327 LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEIIK 1386 Sbjct 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 Query GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG 1446 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE 480 Query DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE 1506 Sbjct RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 481 Query RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 Sbjct 1507 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Query 541 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 Sbjct 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV Query 660 RLGAVQNE+TLTHP+TKYIMTCM+ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ 1627 RLGAVQNEVTLTHPITKYIMTCMAADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Sbjct Query 661 VLSGKPAIIPDREVLYREFDEMEEC LSG+PAIIPDREVLY+EFDEMEEC Sbjct TLSGRPAIIPDREVLYQEFDEMEEC 1687 1711

### $> \frac{\text{Gi}[7650244|\text{gb}[AAF65953.1]}{\text{Dength}=3010}$ polyprotein [Hepatitis C virus]

Score = 1231 bits (3186), Expect = 0.0, Method: Composition-based stats.

Ident	ities	= 631/685 (92%), Positives = 667/685 (97%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPLGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE +FDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	NFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCM+ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMAADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711	

#### $> \Gamma gi|5918939|gb|AAD56185.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1231 bits (3186), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 667/685 (97%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG Sbjct 1027 APITAYSQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG 1086

RID=1153506756-5678-199370517911.BLASTQ4, Pa					
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120		
Sbjct	1087	++T+A P+GP+ QMYTNVDQDLVGW AP GSRSLTPCTCGSSDLYLVTRHADVIPVRRRG SKTLAGPQGPITQMYTNVDQDLVGWQAPPGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180		
Sbjct	1147	D+RGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR DTRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206		
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240		
Sbjct	1207	SP+FTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPIFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266		
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300		
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326		
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+ VIK	360		
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIGVIK	1386		
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420		
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480		
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540		
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566		
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626		
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660		
Sbjct	1627	RLGAVQNEVTLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686		
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDRE+LYREFDEMEEC			
Sbjct	1687	ILSGRPAVIPDREILYREFDEMEEC 1711			
> T gi 5918937 gb AAD56184.1  polyprotein [Hepatitis C virus] Length=3010  Score = 1231 bits (3186), Expect = 0.0, Method: Composition-based stats.					
Ident	ities	= 629/685 (91%), Positives = 667/685 (97%), Gaps = 0/685 (0%)			
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG	60		
Sbjct	1027	APITAYSQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG	1086		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A P+GP+ QMYTNVDQDLVGW AP GSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120		
Sbjct	1087	SKTLAGPQGPITQMYTNVDQDLVGWQAPPGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146		

dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D+RGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR

Query 121

RID=1153506756-5678-199370517911.BLASTQ4, Page 43 of 235				
Sbjct 114	DTRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206		
Query 181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240		
Sbjct 120	SP+FTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPIFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266		
Query 241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300		
Sbjct 126	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326		
Query 301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360		
Sbjct 132	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+ VIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIGVIK	1386		
Query 361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420		
Sbjct 138	GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446		
Query 421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480		
Sbjct 144	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506		
Query 481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540		
Sbjct 150	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566		
Query 541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct 156	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626		
Query 601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660		
Sbjct 162	RLGAVQNE+TLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVTLTHPVTKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686		
Query 661	VLSGKPAIIPDREVLYREFDEMEEC 685			
Sbjct 168	+LSG+PA+IPDRE+LYREFDEMEEC 7 ILSGRPAVIPDREILYREFDEMEEC 1711			
>	0636 gb AAT00644.1  polyprotein [Hepatitis C virus]			
J	231 bits (3184), Expect = 0.0, Method: Composition-based stats.			
	s = 631/685 (92%), Positives = $668/685 (97%)$ , Gaps = $0/685 (0%)$			
Query 1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCI+TSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60		
Sbjct 103		1090		
Query 61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+IQMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120		
Sbjct 109		1150		
Query 121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180		
Shict 115	DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	1210		

1151 DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR

1211 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA

SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA

SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA

Sbjct

Query

181

1210

240

RID=1153506756-5678-199370517911.BLASTQ4, Page 44 of 235						
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300			
Sbjct	1271	YMSKA+G+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI YMSKAYGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1330			
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHP+IEEVALS GEIPFYGKAIP+EVIK	360			
Sbjct	1331	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPSIEEVALSNIGEIPFYGKAIPIEVIK	1390			
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420			
Sbjct	1391	GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIPT GDVVVVATDALMTGYTG	1450			
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480			
Sbjct	1451	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTMPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1510			
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540			
Sbjct	1511	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1570			
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600			
Sbjct	1571	HIDAHFLSQTKQ+GEN PYL+AYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGENFPYLIAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1630			
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660			
Sbjct	1631	RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1690			
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685				
Sbjct	1691	VLSGKPAIIPDRE LY+EFDEMEEC VLSGKPAIIPDREALYQEFDEMEEC 1715				
> Tgi 23957857 gb AAD44718.2  polyprotein [Hepatitis C virus]						

# $> \frac{\text{Gi}[23957857|\text{gb}[\text{AAD44718.2}]}{\text{Length}=3015}$ polyprotein [Hepatitis C virus]

Score = 1231 bits (3184), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1028	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1087
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1088	SKTLAGPKGPIAQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1147
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVG+FRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1148	DNRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGVFRAAVCTRGVAKAVDFVPVESMETTMR	1207
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKST+VPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1208	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTRVPAAYAAQGYKVLVLNPSVAATLGFGA	1267
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+T+I	300
Sbjct	1268	YMSKAHGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTTI	1327
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360

Sbjct	1328	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIK	1387
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1388	GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1447
00)00	1300	OURIDIT CHORRESCENARIO DE DANAMENTA DE LA CONTROL DE LA CO	144/
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
		DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	
Sbjct	1448	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1507
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
		RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	
Sbjct	1508	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1567
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
		HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	
Sbjct	1568	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1627
<b>J</b>			
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
		RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	
Sbjct	1628.	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1687
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
~ - 1		+LSG+PA++PDREVLYREFDEMEEC	
Sbict	1688	ILSGRPAVVPDREVLYREFDEMEEC 1712	

### $> \boxed{\text{gi}|7650266|\text{gb}|\text{AAF}65964.1|}$ polyprotein [Hepatitis C virus] Length=3010

Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 ++T+A PKGP+ OMYTNVDODLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 1146 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 Query DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 Sbjct 1147 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 Query 181 SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 241 Query YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300

YMSKAHG DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+T+I

YMSKAHGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTTI

LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK

LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK

LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIK

GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG

GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG

GGRHLIFCHSKKKCDELAAKLSNLGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG

Score = 1231 bits (3184), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Sbjct

Query

Sbjct

Query

Sbjct

1267

301

361

1327

1326

360

1386

RID=1153506756-5678-199370517911.BLASTQ4, Page 46				
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480	
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506	
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540	
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566	
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600	
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626	
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660	
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686	
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLY+EFDEMEEC		
Sbjct	1687	ILSGRPAVIPDREVLYQEFDEMEEC 1711		
>		55 dbj BAA83719.1  polyprotein [Hepatitis C virus]		
		1 bits (3184), Expect = 0.0, Method: Composition-based stats. = $635/685$ (92%), Positives = $665/685$ (97%), Gaps = $0/685$ (0%)		
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLG IITSLTGRDKN+VEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60	
Sbjct	1028	APITAYSQQTRGLLGSIITSLTGRDKNRVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1087	
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLT CTCGSSDLYLVTRHADVIPVRRRG	120	
Sbjct	1088	SKTLAGPKGPITQMYTNVDQDLVGWPAPSGARSLTSCTCGSSDLYLVTRHADVIPVRRRG	1147	
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180	
Sbjct	1148	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHTVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1207	
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240	
Sbjct	1208	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1267	
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300	
Sbjct	1268	YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1327	
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360	
Sbjct	1328	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1387	
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420	
Sbjct	1388	GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GD VVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLSALGINAVAYYRGLDVSVIPTSGDAVVVATDALMTGYTG	1447	
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480	
Chiat	1 4 4 0	DFDSV DCNTCVTQTVDFSLDPTFTIET T+PQD+VSR+QRRGRTGRG+ GIYRFV PGE	1507	

1448 DFDSVTDCNTCVTQTVDFSLDPTFTIETTTVPQDSVSRSQRRGRTGRGRGGIYRFVIPGE

 ${\tt RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT}$ 

 ${\tt RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT}$ 

Sbjct

Query

481

1507

Sbjct	1508	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1567
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1568	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1627
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1628	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1687
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLYREFDEMEEC	
Sbjct	1688	ILSGRPAIIPDREVLYREFDEMEEC 1712	

## $> \frac{\text{gi}|87080431|\text{emb}|\text{CAH64686.1}|}{\text{Length}=3011}$ polyprotein [Hepatitis C virus]

Score = 1231 bits (3184), Expect = 0.0, Method: Composition-based stats. Identities = 633/685 (92%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVST +QTFLATC+NGVCWTVYHGAG	60
Sbjct	1028	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTTSQTFLATCVNGVCWTVYHGAG	1087
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg +++A PKGP++QMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1088	AKSLAGPKGPILQMYTNVDQDLVGWPAPQGTRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1147
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDF+PVE++ET MR	180
Sbjct	1148	DTRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFVPVESMETVMR	1207
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SP FTDNS+PP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1208	SPTFTDNSTPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1267
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1268	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	Ì327
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAET GAR+VVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIPLEVIK	360
Sbjct	1328	LGIGTVLDQAET GAR+VVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPLEVIK	1387
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420
Sbjct	1388	GGRHLIFCHSKKKCDELAAKLTSLGLNAVAYYRGLDVSVIPLSGDVVVVTDALMTGFTG	1447
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN CVTQTVDFSLDPTFTIET TLPQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1448	DFDSVIDCNVCVTQTVDFSLDPTFTIETTTLPQDAVSRSQRRGRTGRGFLGIYRFVTPGE	1507
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAYMNTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1508	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAYMNTPGLPVCQDHLEFWE VFTGLT	1567
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1568	HIDAHFLSQTKQ+G+N PYLVAYQATVCARA APPPSWDQMWKCLIRLKPTL GPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARASAPPPSWDQMWKCLIRLKPTLRGPTPLLY	1627

Query	601		.EVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV .EVVTSTWVLVGG+LAALAAYCLSTG VVIVGR+	660
Sbjct	1628	RLGSVQNEVTLTHPITKYIMACMSADI	.EVVTSTWVLVGGILAALAAYCLSTGSVVIVGRİ	1687
Query	661	VLSGKPAIIPDREVLYREFDEMEEC VLSGKPAIIPDREVLY+EFDEMEEC	685	
Sbict	1688	VLSGKPAIIPDREVLYKEFDEMEEC	1712	

## $> \frac{\text{gi}|5918967|\text{gb}|AAD56199.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1230 bits (3183), Expect = 0.0, Method: Composition-based stats. Identities = 633/685 (92%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP GH VGIFRAAVCTRGVAKAVDFIPVE++ET+MR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPLGHVVGIFRAAVCTRGVAKAVDFIPVESMETSMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE ALS TGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEAALSNTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA+KL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELASKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQ KQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKP LHGPTPLLY	600
Sbjct	1567	HIDAHFLSQNKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPVLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TK+IMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPITKFIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLYREFDEMEEC	

#### $> \Gamma gi|11559469|dbj|BAB18814.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1230 bits (3183),Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 667/685 (97%), Gaps = 0/685 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 Query APITAY+QQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG Sbjct 1027 APITAYSQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG 1087 Sbjct SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D+RGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR Sbjct 1147 DTRGSLLSPRPVSYLKGSSGGPLLCPSGHIVGVFRAAVCTRGVAKAVDFIPVESMETTMR 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 Query SPVFTDNSSPP VPQ++QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 241 Query YMSKAHG+DPNIRTGVRTITTG+ ITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI 1267 YMSKAHGVDPNIRTGVRTITTGASITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI 1326 Sbjct 360 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK Sbjct 1327 LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL +LGINAVAYYRGLDVSVIP G+VVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSSLGINAVAYYRGLDVSVIPASGNVVVVATDALMTGFTG 1387 1446 Sbjct 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 Query DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE 1506 Sbjct 1447 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT 1566 600 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVONEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC Sbjct 1687 ILSGKPAVIPDREVLYREFDEMEEC 1711

 $<sup>&</sup>gt; \Gamma \underline{gi|48237634|gb|AAT40682.1|}$  polyprotein [Hepatitis C virus] Length=3013

Score = 1230 bits (3182), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 667/685 (97%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG Sbjct 1027 APITAYSQOTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG 1086 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq Query 120 ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG 1087 SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Sbjct Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR 1147 DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 Sbjct 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 Query SPVFTDNS+PP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSTPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 241 Query YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI 1326 Sbjct 1267 301 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE IK Sbjct 1327 LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEAIK 1386 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 Query GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVS+IP GDVVVVATDALMTGYTG 1387 GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSIIPTSGDVVVVATDALMTGYTG 1446 Sbjct DFDSVIDCNTCVTOTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE 1506 Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 541 HIDAHFLSOTKOSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Query HIDAHFLSOTKO+G+N PYLVAYQATVCARA+APPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSOTKOAGDNFPYLVAYOATVCARAKAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 Query RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVONEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 661 VLSGKPAIIPDREVLYREFDEMEEC 685 Query +LSG+PA+IPDREVLY+EFDEMEEC 1687 ILSGRPAVIPDREVLYQEFDEMEEC 1711 Sbjct

## > [gi|1212742|dbj|BAA08120.1|] HCV polyprotein [Hepatitis C virus] Length=3010

Score = 1230 bits (3182), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 667/685 (97%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG 1086

Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGWPAP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSTPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVS+IP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSIIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARA+APPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAKAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYQEFDEMEEC 1711	

## $> \Gamma.gi|7650248|gb|AAF65955.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1229 bits (3181), Expect = 0.0, Method: Composition-based stats. Identities = 632/685 (92%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATCING CWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGACWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+IOMYTNVD DLVGW P G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPIIQMYTNVDLDLVGWQVPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180

Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPLGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPV+TDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVYTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVR ITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRAITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCAR+QAPPPSWDQMWKCL+RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARSQAPPPSWDQMWKCLLRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

# $> \Gamma gi|7650236|gb|AAF65949.1|$ polyprotein [Hepatitis C virus] Length=3013

Score = 1229 bits (3181), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 667/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRD+NOVEGEVO+VSTA Q+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPV RRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVHRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T++	300
Sbjct	1267	YMSKAHGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTV	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGE+PFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEVPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLC+CYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCDCYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPVTKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

## $> \frac{\text{Gi}|5918951|\text{gb}|AAD56191.1|}{\text{Length}=3013}$ polyprotein [Hepatitis C virus]

Score = 1229 bits (3181), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QOTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1030	APITAYSQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1089
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg +T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADV+PVRRRG	120
Sbjct	1090	AKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVVPVRRRG	1149
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHA GIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1150	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAAGIFRAAVCTRGVAKAVDFVPVESMETTMR	1209
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1210	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1269
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1270	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1329
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360

```
LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVI+
Sbjct
       1330
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIR
                                                                            1389
Query
       361
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
             GGRHLIFCHSKKKCDELA KL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG
       1390
Sbjct
             GGRHLIFCHSKKKCDELATKLSALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG
                                                                            1449
       421
Query
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE
                                                                            480
             DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE
Sbjct
       1450
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPODAVSRSORRGRTGRGRGGIYRFVTPGE
                                                                            1509
Query
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            540
             RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT
Sbjct
       1510
             RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT
                                                                            1569
Query
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                             600
             HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
       1570
             HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct
                                                                            1629
       601
Query
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV
                                                                             660
             RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
       1630
Sbjct
             RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                            1689
Query
       661
             VLSGKPAIIPDREVLYREFDEMEEC
                                        685
             +LSG+PA+IPDREVLY+EFDEMEEC
Sbjct
       1690
             ILSGRPAVIPDREVLYQEFDEMEEC
                                        1714
```

Score = 1229 bits (3181), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

```
APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
Query
             APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG
Sbjct
             APITAYAOOTRGLLGCIVTSLTGRDKNOVEGEVOVVSTATOSFLATCVNGVCWTVFHGAG
                                                                            1086
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
Query
       61
                                                                            120
             ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       1087
             SKTLAGPKGPITOMYTNVDODLVGWHAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            1146
Query
       121
             dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
             D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR
Sbjct
       1147
             DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR
                                                                            1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
             SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       1207
             SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            1266
Query
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
             YMSKAHG DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I
Sbjct
       1267
             YMSKAHGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI
                                                                            1326
```

```
Query
       301
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                             360
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE IK
       1327
Sbjct
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEAIK
                                                                             1386
       361
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
Query
                                                                             420
             GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVV+VATDALMTGYTG
       1387
             GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPTSGDVVIVATDALMTGYTG
Sbjct
                                                                             1446
Ouery
       421
             DFDSVIDCNTCVTOTVDFSLDPTFTIETITLPODAVSrtarrartaraKPGIYRFVAPGE
                                                                             480
             DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE
Sbjct
       1447
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE
                                                                             1506
Query
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                             540
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT
Sbjct
       1507
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT
                                                                             1566
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                             600
Query
             HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
             HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct
       1567
                                                                             1626
       601
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV
                                                                             660
Query
             RLGAVQNEITLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
       1627
             RLGAVQNEITLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                             1686
Sbjct
Query
       661
             VLSGKPAIIPDREVLYREFDEMEEC
                                         685
             +LSG+PA++PDREVLYREFDEMEEC
       1687
             ILSGRPAVVPDREVLYREFDEMEEC
Sbjct
                                         1711
> \[ \text{qi} \dot 464178 \| \text{dbj} \| \text{BAA03581.1} \| \text{polyprotein [Hepatitis C virus (isolate HC-G9)]}
 qi|81992806|sp|Q81754|POLG HCVH9 Genome polyprotein [Contains: Core protein p21 (Caps
C) (p21); Core protein p19; Envelope glycoprotein E1 (gp32)
(gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7;
Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin)
(NS3P) (p70); Nonstructural protein 4A (NS4A) (p8);
Nonstructural protein 4B (NS4B) (p27); Nonstructural protein
5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)]
Length=3011
 Score = 1229 bits (3181), Expect = 0.0, Method: Composition-based stats.
 Identities = 635/685 (92%), Positives = 659/685 (96%), Gaps = 0/685 (0%)
                                                                             60
             APITAYAQOTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Query
             APITAYAQOTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATC+NGVCWTVYHGAG
       1027 APITAYAQOTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCVNGVCWTVYHGAG
                                                                             1086
Sbjct
             TRTIASPKGPVIOMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                             120
Query
       61
             +RTIAS GPVIOMYTNVDODLVGWPAPOG+RSLTPCTCG+SDLYLVTRHADVIPVRRRG
             SRTIASASGPVIOMYTNVDODLVGWPAPOGARSLTPCTCGASDLYLVTRHADVIPVRRRG
Sbjct
       1087
                                                                             1146
Query
       121
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                             180
             D+RGSLLSPRPISYLKGSSGGPLLCP GHAVGIFRAAVCTRGVAKAVDF+PVE+LETTMR
Sbjct
       1147
             DNRGSLLSPRPISYLKGSSGGPLLCPMGHAVGIFRAAVCTRGVAKAVDFVPVESLETTMR
                                                                             1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                             240
             SPVFTDNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
             SPVFTDNSSPPTVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                             1266
Sbjct
       1207
```

YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI

YMSKAHGIDPN+RTGVRTITTGSPIT+STYGKFLADGGCSGGAYDIIICDECHS DATSI

Query

241

RID=1	1535061	756-5678-199370517911.BLASTQ4,	Page 56 of 235
Sbjct	1267	YMSKAHGIDPNVRTGVRTITTGSPITHSTYGKFLADGGCSGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAG RL +LATATPPGSVTVPH NIEEVALST GEIPFYGKAIPL IK LGIGTVLDQAETAGVRLTILATATPPGSVTVPHSNIEEVALSTEGEIPFYGKAIPLNYIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLV LG+NAVA+YRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVGLGVNAVAFYRGLDVSVIPTTGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCV QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGK GIYR+V+PGE	480
Sbjct	1447	DFDSVIDCNTCVVQTVDFSLDPTFSIETSTVPQDAVSRSQRRGRTGRGKHGIYRYVSPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDS VLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSVVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARA+APPPSWDQMWKCLIRLKPTL G TPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAKAPPPSWDQMWKCLIRLKPTLTGATPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG VQNEITLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLSTG VVIVGR+	660
Sbjct	1627	RLGGVQNEITLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711	
Length	=3010	447 dbj BAB18803.1  polyprotein [Hepatitis C virus]	
		9 bits (3180), Expect = 0.0, Method: Composition-based stats. = 633/685 (92%), Positives = 665/685 (97%), Gaps = 0/685 (0%)	
· Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAH+HAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHIHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300

YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI

LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK

LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE IK

1267 YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI

1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEAIK

Sbjct

Query

Sbjct

301

1326

Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ G YRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGTYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGM DSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMLDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYQEFDEMEEC 1711	

### $> \Gamma gi|5918949|gb|AAD56190.1|$ polyprotein [Hepatitis C virus] Length=3013

Score = 1229 bits (3179), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1030	APITAYSQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1089
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg +T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADV+PVRRRG	120
Sbjct	1090	AKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVVPVRRRG	1149
Query	121	dsrgsllsprPiSYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHA GIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1150	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAAGIFRAAVCTRGVAKAVDFVPVESMETTMR	1209
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1210	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1269
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1270	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1329
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVI+	360
Sbjct	1330	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIR	1389
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1390	GGRHLIFCHSKKKCDELATKLSALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1449
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480

Sbjct	1450	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1509
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWE VFTGLT	540
Sbjct	1510	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1569
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600 .
Sbjct	1570	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1629
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1630	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1689
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1690	ILSGRPAIIPDREVLYQEFDEMEEC 1714	

 $> \frac{\text{gi}|5441839|\text{emb}|\text{CAB46915.1}|}{\text{gi}|5441833|\text{emb}|\text{CAB46911.1}|}$  non-structural polyprotein [Hepatitis C virus] Length=2201

Score = 1229 bits (3179), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

```
APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
Query
            APITAY+QQTRGLLGCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG
       218
           APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG
                                                                            277
Sbjct
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                            120
Query
            ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       278
            SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            337
       121
Query
            dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
            DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR
Sbjct
       338
            DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR
                                                                            397
       181
            SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
Query
            SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
       398
            SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
                                                                            457
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
Query
            YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I
       458
            YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI
Sbjct
                                                                            517
       301
            LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
Query
                                                                            360
            LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS+TGEIPFYGKAIP+E IK
            LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSSTGEIPFYGKAIPIETIK
       518
Sbjct
                                                                            577
            GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
Query
       361
                                                                            420
            GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDV+VVATDALMTG+TG
Sbjct
       578
            GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVIVVATDALMTGFTG
                                                                            637
       421
            DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE
                                                                            480
Query
            DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE
Sbjct
       638
            DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE
                                                                            697
       481
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            540
Query
            RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT
Sbjct
       698
            RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT
                                                                            757
```

```
Query
       541
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                            600
            HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
       758
Sbjct
            HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                            817
       601
            RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV
Query
                                                                            660
            RLGAVQNE+T THP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
       818
Sbjct
            RLGAVQNEVTTTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                            877
       661
Query
            VLSGKPAIIPDREVLYREFDEMEEC
                                        685
            +LSGKPAIIPDREVLYREFDEMEEC
       878
Sbjct
            ILSGKPAIIPDREVLYREFDEMEEC
                                        902
> \Gamma gi|5420377|emb|CAB46677.1| polyprotein [Hepatitis C virus type 1b]
 gi|68565847|sp|Q9WMX2|POLG HCVCO Genome polyprotein [Contains: Core protein p21 (Caps
C) (p21); Core protein p19; Envelope glycoprotein E1 (qp32)
(gp35); Envelope glycoprotein E2 (NS1) (qp68) (qp70); p7;
Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin)
(NS3P) (p70); Nonstructural protein 4A (NS4A) (p8);
Nonstructural protein 4B (NS4B) (p27); Nonstructural protein
5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)]
Length=3010
 Score = 1228 \text{ bits } (3178),
                            Expect = 0.0, Method: Composition-based stats.
 Identities = 630/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Query
                                                                             60
             APITAY+QQTRGLLGCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG
Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG
                                                                            1086
Query
       61
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                             120
             ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
             {\tt SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG}
Sbjct
       1087
                                                                            1146
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
      ,121
                                                                             180
             DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR
Sbjct
       1147
             DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR
                                                                            1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                             240
             SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            1266
       241
Query
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                             300
             YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I
Sbjct
       1267
             YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI
                                                                             1326
       301
Query
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                             360
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS+TGEIPFYGKAIP+E IK
Sbjct
       1327
             LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSSTGEIPFYGKAIPIETIK
                                                                             1386
       361
Query
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                             420
             GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDV+VVATDALMTG+TG
             GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVIVVATDALMTGFTG
Sbjct
       1387
                                                                             1446
```

DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE

DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE

DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT

Query

Sbjct

Query

421

1447

481

480

1506

Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+T THP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTTTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYREFDEMEEC 1711	

## $> \Gamma \underline{\text{gi}|62006147|\text{dbj}|BAD91386.1|}}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1228 bits (3177), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRD+NOVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DNRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKA P+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAFPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELATKLSALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626

RID=11	535067	756-5678-199370517911.BLASTQ4,	Page 6
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYQEFDEMEEC 1711	
> 「gil		17 gb AAD50312.1  polyprotein precursor [Hepatitis C virus]	
		8 bits (3177), Expect = 0.0, Method: Composition-based stats. = $631/685$ (92%), Positives = $666/685$ (97%), Gaps = $0/685$ (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	1087	T+T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPN+RTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNLRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ALS TGEIPFYGKAIP+E+IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIALSNTGEIPFYGKAIPIEIIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP G+VVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGNVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Q1	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	1566

RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT

HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

 ${\tt RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV}$ 

RLGAVQNE TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+

RLGAVQNETTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI

685

http://www.ncbi.nlm.nih.gov/BLAST/Blast.cgi

VLSGKPAIIPDREVLYREFDEMEEC

VLSGKPAIIPDREVLY+EFDEMEEC

Sbjct

Query

Sbjct

Query

Sbjct

Query

1507

541

1567

601

1627

661

1566

600

1626

660

Sbjct 1687 VLSGKPAIIPDREVLYQEFDEMEEC 1711

### $> \Gamma gi|7650228|gb|AAF65945.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1228 bits (3177), Expect = 0.0, Method: Composition-based stats. Identities = 632/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1086 61 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG 1087 Sbjct SKTLAGPKGPIAQMYTNVDQDLVGWAAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR Sbjct 1147 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 241 300 Query YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI Sbjct 1267 YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI 1326 301 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYGKAIP+ 1327 Sbjct LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGKAIPIATIK 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG 1387 GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG Sbjct 1446 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE 421 Query 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE Sbjct 1447 1506 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLY+EFDEMEEC Sbjct 1687 ILSGRPAVIPDREVLYQEFDEMEEC 1711

 $<sup>&</sup>gt; \Gamma gi|5918957|gb|AAD56194.1|$  polyprotein [Hepatitis C virus] Length=3010

Score Identi	= 1228 ities =	B bits (3177), Expect = 0.0, Method: Composition-based stats. = 630/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QOTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711	

# $> \Gamma gi|5918929|gb|AAD56180.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1228 bits (3177), Expect = 0.0, Method: Composition-based stats. Identities = 632/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1086

Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPIAQMYTNVDQDLVGWAAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYGKAIP+ IK LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGKAIPIATIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHPVTK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPVTKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSG+PA+IPDREVLY+EFDEMEEC ILSGRPAVIPDREVLYQEFDEMEEC 1711	

## $> \Gamma gi|7650256|gb|AAF65959.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1228 bits (3176), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL GCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLFGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRR	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRS	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180

Sbjct	1147	D RGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR DGRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPV+TDNSSPP VPQSFQVAHLHAPTGSGKST+VPAAYAAQGYKVLVLNPSVAATLGFG	240
Sbjct	1207	SPVYTDNSSPPAVPQSFQVAHLHAPTGSGKSTRVPAAYAAQGYKVLVLNPSVAATLGFGT	1266
Query .	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAA+L ALGINAVAYYRGLDVS+IP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAQLTALGINAVAYYRGLDVSIIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQD+VSR+QRRGRTGRG+ GIYR+V PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDSVSRSQRRGRTGRGRGGIYRYVIPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TKYIM CMSADLE+VTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPITKYIMACMSADLEIVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLYREFDEMEEC	-
Sbjct	1687	ILSGKPAVVPDREVLYREFDEMEEC 1711	

## $> \Gamma gi|7650222|gb|AAF65942.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1228 bits (3176), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
		APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG	
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
		++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
		D+RGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	
Sbjct	1147	DTRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
		SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+++IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIDLIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAGKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSG+PA++PDREVLYR+FDEMEEC ILSGRPAVVPDREVLYRQFDEMEEC 1711	

# $> \Gamma$ gi|46560634|gb|AAT00643.1| polyprotein [Hepatitis C virus] Length=3010

Score = 1227 bits (3175), Expect = 0.0, Method: Composition-based stats. Identities = 633/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

	10100	000,000 (310), 10010100 000,000 (310), 0000 (00)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQOTRGLLGCIITSLTGRDKNQVEGEVO+VSTA O+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61 .	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360

	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEI FYGKAIP+EVIK	
1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNAGEISFYGKAIPIEVIK	1386
361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
1627	RLGAVQNEITLTHPVTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
661	VLSGKPAIIPDREVLYREFDEMEEC 685	
1687	+LSGKPA+IPDREVLY4EFDEMEEC ILSGKPAVIPDREVLYQEFDEMEEC 1711	
	361 1387 421 1447 481 1507 541 1567 601 1627 661	1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNAGEISFYGKAIPIEVIK  361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG 1387 GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIP GDVVVVATDALMTGFTG  421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGTTGRGRGGIYRFVTPGE  481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEVFTGLT 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT  541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY  601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHPVTKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEITLTHPVTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEITLTHPVTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCL+TGSVVIVGRI  661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY+EFDEMEEC 685

## $> \frac{\text{Gi}|11559455|\text{dbj}|BAB18807.1|}{\text{Length}=3011}$ polyprotein [Hepatitis C virus]

Score = 1227 bits (3175), Expect = 0.0, Method: Composition-based stats. Identities = 633/685 (92%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NGVCWTVYHGAG	60
Sbjct	1028	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1087
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1088	SKTLAGPKGPVTQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1147
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1148	DSRGSLLSPRPVSYLKGSSGGPLLCPLGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1207
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1208	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1267
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+GIDPN+RTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1268	YMSKAYGIDPNVRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1327
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE IK	360
Sbjct	1328	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEAIK	1387
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Shict	1388	GGRHLIFCHSKKKCDELATKLSGLGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1447

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1448	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1507
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1508	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1567
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1568	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1627
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1628	RLGAVQNEITLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1687
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1688	ILSGRPAIIPDREVLYQEFDEMEEC 1712	

## $> \boxed{\text{gi}|7650240|\text{gb}|\text{AAF65951.1}|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1227 bits (3174), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++ +A KGPV QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKALAGQKGPVTQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYA+QGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYASQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSR+QRRGRTGRGRMGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540

Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYL AYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLTAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TGCVVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDR+VLY+EFDEMEEC	
Sbict	1687	ILSGKPAVIPDRDVLYOEFDEMEEC 1711	

## $> \Gamma$ <u>gi|11559451|dbj|BAB18805.1|</u> polyprotein [Hepatitis C virus] Length=3010

Score = 1227 bits (3174), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

raenci	rcres -	- 031,003 (320), 1031E1Ve3 - 000,003 (370), Gap3 - 0,003 (00)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A PKGP+ OMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPLGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL ALGINAVAYYRGLDVSVIP G+VVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELATKLSALGINAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTMPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GENLPYLVAYQATVCARAQAPPPSWDQMWKCL+RLKPTL GPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGENLPYLVAYQATVCARAQAPPPSWDQMWKCLVRLKPTLQGPTPLLY	1626

Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWVI RLGAVQNE+TLTHP+TKYIMTCM+ADLEVVTSTWVI		660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMAADLEVVTSTWVI	LVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PA++PDREVLY+EFDEMEEC		
Sbjct	1687	VLSGRPAVVPDREVLYQEFDEMEEC 1711		

## $> \Gamma \underline{gi|11559445|dbj|BAB18802.1|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1227 bits (3174), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 668/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAV+FIPVE++ETTMR	180
Sbjct	1147	DNRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVEFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL+ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLLALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G++ PYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDHFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IMTCM+ADLE+ TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMTCMAADLEIATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	

+LSG+PA++PDREVLY+EFDEMEEC
Sbjct 1687 ILSGRPAVVPDREVLYQEFDEMEEC 1711

#### $> \Gamma \underline{\text{gi}|471117|\text{dbj}|BAA01728.1|}$ polyprotein precursor [Hepatitis C virus] Length=3010

Score = 1227 bits (3174), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG 1027 Sbjct APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1086 61 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrra 120 ++T+A PKGP+ QMYTNVDODLVGWPAP G+RSLTPCTCGSSDLYLVTR+ADVIPVRRRG Sbjct 1087 SKTLAGPKGPITQMYTNVDQDLVGWPAPSGARSLTPCTCGSSDLYLVTRYADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRP+SYLKGSSGGPLLCP+GHA GIFRAAVCTRGVAKAVDF+PVE++ETTMR  ${\tt DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAAGIFRAAVCTRGVAKAVDFVPVESMETTMR}$ Sbjct 1147 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 1266 Query YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHGIDPN RTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I Sbjct 1267 YMSKAHGIDPNTRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 Query 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPH NIEEVALSTTGEIPFYGKAIP+E IK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHSNIEEVALSTTGEIPFYGKAIPIETIK 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG Sbjct 1387 1446 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE Sbjct DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE 1447 1506 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT  ${\tt RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT}$ Sbjct 1507 1566 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV Query 601 660 RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PA+IPDREVLY+EFDEMEEC 1687 VLSGRPAVIPDREVLYQEFDEMEEC Sbjct 1711

 $<sup>&</sup>gt; \Gamma \underline{gi|5918953|gb|AAD56192.1|}$  polyprotein [Hepatitis C virus] Length=3010

Score = 1226 bits (3173),Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG 1086 61 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 ++T+A P+GP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG 1087 Sbjct SKTLAGPQGPITQMYTNVDQDLVGWPAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR Sbjct 1147 DTRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SP+FTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1207 SPIFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query Y+SKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI Sbjct 1267 YVSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI 1326 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELA KL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAGKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG Sbjct 1387 1446 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 Query DFDSVIDCNTCVTQTVDFSLDPTFTIET+T+PQDAVSR+QRRGRTGRG+ G YRFV PGE .1506 DFDSVIDCNTCVTQTVDFSLDPTFTIETMTVPQDAVSRSQRRGRTGRGRRGTYRFVTPGE Sbjct 1447 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 Sbjct 1507 HIDAHFLSOTKOSGENLPYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY 600 541 Query HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY 1626 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 Query RLGAVQNE+TLTHPVTK IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEVTLTHPVTKLIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLYREFDEMEEC Sbjct 1687 ILSGRPAVVPDREVLYREFDEMEEC

## $> \Gamma gi|11559449|dbj|BAB18804.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1226 bits (3173), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60
APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG

RID=1	Page 73 of 235		
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	1087	++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE +ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVEAMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL +LGINAVAYYRGLDVSVIP G+VVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSSLGINAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSRTQRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRTQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPVTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	
> <u> </u>		98 emb CAA03854.1  polyprotein [Hepatitis C virus]	
		6 bits (3172), Expect = 0.0, Method: Composition-based stats. = 629/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPVTQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146

RID=1	Page 74 of 235		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VP++FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPETFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHG DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GEN PYL AYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567		1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVVLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1687		
> <b>┌</b> gi Length		187 dbj BAD73971.1  polyprotein [Hepatitis C virus type 1b]	
		26 bits (3172), Expect = 0.0, Method: Composition-based stats. = 629/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)	
Query	1 ·	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240

SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA

SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA

SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA

YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI

YMSKAHG+DPNIRTG RT+TTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI YMSKAHGVDPNIRTGARTVTTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI

181

1205

241

Query

Sbjct

Query

Sbjct

1264

300

1324

RID=1	RID=1153506756-5678-199370517911.BLASTQ4, Page 76 of 235						
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360				
Sbjct	1325	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1384				
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL LGINAVAYYRGLDVSVIP G+VVVVATDALMTGYTG	420				
Sbjct	1385	GGRHLIFCHSKKKCDELATKLSGLGINAVAYYRGLDVSVIPASGNVVVVATDALMTGYTG	1444				
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480				
Sbjct	1445	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1504				
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540				
Sbjct	1505	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1564				
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600				
Sbjct	1565	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1624				
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660				
Sbjct	1625	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1684				
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC					
Sbjct	1685	ILSGKPAVIPDREVLYREFDEMEEC 1709					
Length Score	> <u>gi 7650234 gb AAF65948.1 </u> polyprotein [Hepatitis C virus] Length=3010  Score = 1226 bits (3171), Expect = 0.0, Method: Composition-based stats.						
		= 631/685 (92%), Positives = 664/685 (96%), Gaps = 0/685 (0%)	60				
Query		APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG					
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086				
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120				
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146				
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180				

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGLFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420

RID=1	Page 77 of 235		
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTI+T T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIDTTTVPQDAVSRSQRRGRTGRGGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYL AYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLAAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGRV RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRV	1686

### Sbjct 1687 ILSGKPAVIPDREVLYQEFDEMEEC 1711

VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY+EFDEMEEC

Query 661

# $> \frac{\text{Gi}|5918955|\text{gb}|AAD56193.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1226 bits (3171), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NG CWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A P+GP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPQGPITQMYTNVDQDLVGWPAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DTRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SP+FTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPIFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Y+SKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300
Sbjct	1267	YVSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAGKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET+T+PQDAVSR+QRRGRTGRG+ G YRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETMTVPQDAVSRSQRRGRTGRGRRGTYRFVTPGE	1506

Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCODHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDOMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVONE+TLTHPVTK IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPVTKLIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Sbjct	1627 661	-	1686

# $> \boxed{gi|5918931|gb|AAD56181.1|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1226 bits (3171), Expect = 0.0, Method: Composition-based stats. Identities = 632/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPIAQMYTNVDQDLVGWAAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYGKAIP+ IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGKAIPIATIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGFGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

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Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626

Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660
RLGAVQNE+TLTHPVTK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
Sbjct 1627 RLGAVQNEVTLTHPVTKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685
+LSG+PA+IPDREVLY+EFDEMEEC
Sbjct 1687 ILSGRPAVIPDREVLYQEFDEMEEC 1711
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> \[ \frac{\text{gi|266821|sp|P29846|POLG HCVTW}}{\text{CO}} \] Genome polyprotein [Contains: Core protein p21 (Caps C) (p21); Core protein p19; Envelope glycoprotein E1 (gp32) (gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7; Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin) (NS3P) (p70); Nonstructural protein 4A (NS4A) (p8); Nonstructural protein 4B (NS4B) (p27); Nonstructural protein 5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)] Length=3010

Score = 1226 bits (3171), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGL GCTTTSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG APITAYAQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW APQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWHAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQAFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALGI+AVAYYRGLDVSVIP G+VVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGIHAVAYYRGLDVSVIPASGNVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRT RG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTMPQDAVSRSQRRGRTSRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY	600

Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKP	TLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLS RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+		660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLT		1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC		
Sbjct	1687	ILSGKPAVVPDREVLYQEFDEMEEC 1711		

# $> \Gamma gi|11559441|dbj|BAB18800.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1226 bits (3171), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	1	APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	00
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLV+LATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVLLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP G+VVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRG+ GI1RFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC Sbjct 1687 ILSGKPAVIPDREVLYREFDEMEEC 1711

#### $> \Gamma gi|56342185|dbj|BAD73970.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1225 bits (3170), Expect = 0.0, Method: Composition-based stats.

Identities = 629/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG 1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1086 Sbjct 61 TRTIASPKGPVIOMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrrrd 120 Query T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 Query DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 Sbjct 1147 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 181 Query SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 300 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 241 Query YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 1267 Sbjct 360 Query LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK 1386 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNVGEIPFYGKAIPIETIK Sbjct 1327 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 Query GGRHLIFCHS+KKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSRKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG 1446 1387 Sbjct DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE 480 421 Query DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE 1506 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE Sbjct 1447  ${\tt RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT}$ 540 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT 1566 Sbjct 1507 600 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query 541 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 Sbjct 1567 660 Query 601 RLGAVONEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV

RLGAVONE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+

RLGAVONEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI

685

1711

VLSGKPAIIPDREVLYREFDEMEEC

+LSGKPAIIPDREVLY++FDEMEEC ILSGKPAIIPDREVLYQQFDEMEEC

Sbjct

Query

Sbjct

1627

661

1687

1686

<sup>&</sup>gt; T gi|7650254|gb|AAF65958.1| polyprotein [Hepatitis C virus]

Length=3010

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Score = 1225 bits (3170), Expect = 0.0, Method: Composition-based stats.
 Identities = 630/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)
Query
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
             APITAY+QQTRGL+GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG
Sbjct
       1027
             APITAYSQQTRGLIGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG
                                                                            1086
       61
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
Query
                                                                            120
             T+T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG
       1087
Sbjct
             TKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            1146
Query
       121
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
             DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR
       1147
Sbjct
             DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR
                                                                            1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
             SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       1207
             SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            1266
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Query
       241
                                                                            300
             YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI
Sbjct
       1267
             YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI
                                                                            1326
       301
Query
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK
Sbjct
       1327
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK
                                                                            1386
       361
Query
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
             GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP G+VVVVATDALMTGYTG
Sbjct
       1387
             GGRHLIFCHSKKKCDELAAKLSALGINAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG
                                                                            1446
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE
Query
       421
                                                                            480
             DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE
Sbjct
       1447
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE
                                                                            1506
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
Query
                                                                            540
             RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT
       1507
Sbjct
             RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT
                                                                            1566
Query
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                            600
             HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQA PPSWDQMWKCL RLKPTLHGPTPLLY
       1567
Sbjct
             HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQALPPSWDQMWKCLTRLKPTLHGPTPLLY
                                                                            1626
             {\tt RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV}
       601
Query
                                                                            660
             RLGAVQNEITLTHP+TKYIMTCM+ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
Sbjct
       1627
             RLGAVQNEITLTHPITKYIMTCMAADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                            1686
       661
Query
             VLSGKPAIIPDREVLYREFDEMEEC
                                        685
             +LSGKPA+IPDREVLYREFDEMEEC
Sbjct
       1687
             ILSGKPAVIPDREVLYREFDEMEEC
                                       1711
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### > $\boxed{gi|5918933|gb|AAD56182.1|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1225 bits (3170), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60

		APITAY+QQTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	
Sbjct	1027	APITAYSQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPN+RTGVRTITTG+ ITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300
Sbjct	1267	YMSKAHGIDPNVRTGVRTITTGASITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEV LS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVGLSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL LGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELATKLSTLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETATVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAIIPDREVLYREFDEMEEC 1711	

# $> \Gamma gi|1814088|dbj|BAA09074.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1225 bits (3170), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query Sbjct		APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	60 1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCG SDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGGSDLYLVTRHADVIPVRRRG	1146

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSV ATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVTATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHS D+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSIDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPASGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLP CQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPFCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GENLPYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGENLPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQN++TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAAL AYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNDVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALTAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPA+IPDRE LY+EFDEMEEC ILSGKPAVIPDREALYQEFDEMEEC 1711	

## $> \boxed{\text{gi|1160328|dbj|BAA03375.1|}}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1225 bits (3170), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240

Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPN+RTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNVRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEV LS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVGLSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGINAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYD+GCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDSGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCAR+QAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARSQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVİVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

# $> \Gamma gi|56342203|dbj|BAD73979.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1225 bits (3169), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query 1		60
20017 1	APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVO+VSTA O+FLATC+NGVCWTVYHGAG	00
Sbjct 102		1086
Query 61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A PKGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct 108		1146
Query 121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHA GIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct 114		1206
Query 181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct 120		1266
Query 241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct 126		1326

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+I CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFITACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYQQFDEMEEC 1711	

# $> \frac{\text{Gi}|56342189|\text{dbj}|\text{BAD73972.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus type 1b]

Score = 1225 bits (3169), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ OMYTNVD DLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	T+T+A KGP+ QMYTNVD DLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TKTLAGQKGPITQMYTNVDLDLVGWQAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420

Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VKLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQEFDEMEEC 1711	

# $> \Gamma gi|7650252|gb|AAF65957.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1225 bits (3169), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

100.		000,000 (370), 10011100	
Query	y 1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG	1086
Query	y 61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	y 121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPLGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	y 181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	y 241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	y 301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEVIK	1386
Query	y 361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	y 421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRIGIYRFVTPGE	1506

Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTP+ETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPSETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKO+G+N PYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IMTCM+ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMTCMAADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711	

# $> \frac{\text{Gi}|7650242|\text{gb}|\text{AAF65952.1}|}{\text{Length=3010}}$ polyprotein [Hepatitis C virus]

		5 bits (3169), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 668/685 (97%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60 .
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETT+R	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHIVGIFRAAVCTRGVAKAVDFIPVESMETTIR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVR ITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRAITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDV+VVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVIVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ G+YRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGVYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627		1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLY++FDEMEEC	
Sbjct	1687	ILSGRPAVVPDREVLYQQFDEMEEC 1711	

# $> \frac{\text{gi}|5918959|\text{gb}|AAD56195.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1225 bits (3169), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

raenc	TCTC2	- 029/003 (91%), FOSICIVES - 000/003 (97%), Gaps - 0/003 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY+EFDEMEEC Sbjct 1687 ILSGKPAVIPDREVLYQEFDEMEEC 1711

### $> \Gamma gi|5918943|gb|AAD56187.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1225 bits (3169),Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG Sbjct 1086 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg Query 61 120 ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE +ETTMR Sbjct 1147 DTRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVEAMETTMR 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHG +PNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGTEPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI Sbjct 1267 1326 Query 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK Sbjct 1327 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG 1387 Sbjct GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG 1446 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE Query 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE Sbjct 1447 1506 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCODHLEFWESVFTGLT 1566 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 601 Query 660 RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 · VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC

1711

ILSGRPAVIPDREVLYREFDEMEEC

Sbjct

1687

#### $> \Gamma \underline{\text{gi}|27544244|\text{dbj}|BAC54896.1|}}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1225 bits (3169), Expect = 0.0, Method: Composition-based stats.

Identities = 628/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%) Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG 1086 61 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg 120 ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG 1087 Sbjct SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR Sbjct 1147 DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1207 Sbjct SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query 241 YMSKA+G DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I Sbjct 1267 YMSKAYGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK 1327 Sbjct 1386 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG Query 420 GGRHLIFCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG 1446 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtgrrgrtgrgKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE 1506 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT Query 481 540 RPSGMFDSSVLCECYDAGCAWYELTPAET++RLRAY+NTPGLPVCQDHLEFWE VFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSIRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY 1567 Sbjct HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDOMWKCLTRLKPTLHGPTPLLY 1626 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV Query 660 RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC Sbjct 1687 ILSGKPAVIPDREVLYREFDEMEEC 1711

#### $> \lceil \underline{\text{gi}|11559453|\text{dbj}|BAB18806.1|}}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1225 bits (3169), Expect = 0.0, Method: Composition-based stats. Identities = 631/685 (92%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Score = 1224 bits (3168), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60
APITAYAQQTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG
Sbjct 1027 APITAYAQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1086
Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120

KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG

http://www.ncbi.nlm.nih.gov/BLAST/Blast.cgi

RID=1153506756-5678-199370517911.BLASTQ4,					
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180		
Sbjċt	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206		
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240		
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266		
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300		
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326		
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK	360		
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386		
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420		
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480		
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540		
Sbjct	1507	<del>-</del>	1566		
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct	1567	HIDAHFLSQTKQAGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626		
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660		
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686		
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC			
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711			
> Tgi 56342241 dbj BAD73998.1  polyprotein [Hepatitis C virus type 1b] Length=3010  Score = 1224 bits (3168), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)					
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60		
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120		
Sbjct	1087	T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180		
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206		

RID=1153506756-5678-199370517911.BLASTQ4, Pa				
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240	
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266	
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300	
Sbjct	1267	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326	
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360	
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386	
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420	
Sbjct	1387	GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446	
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480	
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGFFGIYRFVTPGE	1506	
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540	
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566	
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600	
Sbjct	1567	HIDAHFLSQTKQ+GEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626	
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660	
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686	
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC		
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711		
> <u> </u>		237 dbj BAD73996.1  polyprotein [Hepatitis C virus type lb]		
		4 bits (3168), Expect = 0.0, Method: Composition-based stats. = 628/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)		
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60	
Sbjct	1027	APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086	
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120	
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146	
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180	
Sbjct	1147		1206	
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240	
Sbjct	1207		1266	

YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I

Query 241

RID=1153506756-5678-199370517911.BLASTQ4,				
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326	
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360	
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386	
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420	
Sbjct	1387	GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446	
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480	
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506	
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540	
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566	
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600	
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626	
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660	
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686	
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY+EFDEMEEC		
Sbjct	1687	ILSGKPAIVPDREVLYQEFDEMEEC 1711		
Length	<u>=</u> 3014	461 dbj BAB18810.1  polyprotein [Hepatitis C virus]  4 bits (3168), Expect = 0.0, Method: Composition-based stats.		
		= 632/685 (92%), Positives = 664/685 (96%), Gaps = 0/685 (0%)		
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCING CWTV+HGAG	60.	
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGACWTVFHGAG	1086	
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120	
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146	
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180	
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPLGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206	

Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query '	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+TPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711	

# $> \Gamma$ gi|221615|dbj|BAA18894.1| polyprotein [Hepatitis C virus] Length=3010

Score = 1224 bits (3168), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY OOTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG	60
Sbjct	1027	APITAYXQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWHAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPiSYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAA GYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAXGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTGVRTITTG PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTDPNIRTGVRTITTGGPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480

RID=1153506756-5678-199370517911.BLASTQ4, Page 97 of 235					
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540		
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566		
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLV YQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVVYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626		
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660		
Sbjct	1627	RLGAVQNEITLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEITLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686		
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685			
Sbjct	1687	+LSG+PA++PDREVLYREFDEMEEC ILSGRPAVVPDREVLYREFDEMEEC 1711			
>		239 dbj BAD73997.1  polyprotein [Hepatitis C virus type 1b]			
		4 bits (3167), Expect = 0.0, Method: Composition-based stats. = 628/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)			
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60		
Sbjct	1027	APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120		
Sbjct	1087	T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180		
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206		
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240		
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266		
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300		
Sbjct	1,267	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326		
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360		
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386		
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420		
Sbjct	1387	GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480		
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506		
_	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540		
Query		RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT  RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	1566		
SDICT	1507	- RPSGIVEDSSVIJERE YDDGCAWYRCTDARTSVRI DAYLNTDGLDVCODREKRWRGVFTGLT	1700		

Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT 1566

Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQEFDEMEEC 1711	

# $> \Gamma gi|1814085|dbj|BAA09071.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1224 bits (3167), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCG SDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGGSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSV ATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVTATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHS D+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSIDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLP CQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPFCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GENLPYLVAYQATVCARAQAPPPSWDOMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGENLPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQN++TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAAL AYCL+TG VVIVGR+	660

Sbjct 1627 RLGAVQNDVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALTAYCLTTGSVVIVGRI 1686

Query 661 VLSGKPÄIIPDREVLYREFDEMEEC 685 +LSGKPÄ+IPDRE LY+EFDEMEEC Sbjct 1687 ILSGKPÄVIPDREALYQEFDEMEEC 1711

# $> \frac{\text{Gi}[56342201|\text{dbj}|\text{BAD73978.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus type 1b]

Score = 1224 bits (3166), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

raenc	ittes	- 620/665 (91%), POSICIVES - 604/665 (96%), Gaps - 0/665 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHA GIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAAGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct Query	1207 241	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA  YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1266 300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541 1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600 1626
Sbjct Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNETTLTHP+TK+I CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVTLTHPITKFITACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
61.1.1	1.607	+LSGKPA+IPDREVLY++FDEMEEC	

Sbjct 1687 ILSGKPAVIPDREVLYQQFDEMEEC 1711

#### $> \Gamma \underline{gi|7650264|gb|AAF65963.1|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1224 bits (3166), Expect = 0.0, Method: Composition-based stats.

Identities = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query 60 APITAYAQQTRG+LGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYAQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG Sbjct 1027 1086 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq Query 61 120 ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG 1087 SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1146 Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D+RGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR 1147 DTRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 Sbjct SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 181 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHG+DPNIRTGVRTITTG+ ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI 1267 YMSKAHGVDPNIRTGVRTITTGASITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI Sbjct 1326 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGE+PFYGKAIPLE IK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEVPFYGKAIPLENIK 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG 1387 GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG Sbjct 1446 Query 421 DFDSVIDCNTCVTOTVDFSLDPTFTIETITLPODAVSrtgrrgrtgrgKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE 1506 Sbjct 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 Sbjct 600 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRL+PTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLRPTLHGPTPLLY 1626 Sbjct 1567 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvgqvlaalaaYCLSTGCVVIVGRV 660 Query RLGAVONE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ 1627 RLGAVONEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Sbjct 661 Query VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLYREFDEMEEC ILSGRPAVVPDREVLYREFDEMEEC 1687 Sbjct

### $> \Gamma gi|5918941|gb|AAD56186.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1224 bits (3166), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE +ETTMR	180
Sbjct	1147	DTRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVEAMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG +PNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTEPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

Score = 1224 bits (3166), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG 61 Sbjct 2 APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 61

RID=1	Page 102 of 235		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	62	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	121
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	122	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	181
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	182	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	241
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	242	YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	301
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS+TGEIPFYGKAIP+E IK	360
Sbjct	302	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSSTGEIPFYGKAIPIETIK	361
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDV+VVATDALMTG+TG	420
Sbjct	362	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVIVVATDALMTGFTG	421
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	422	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	481
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	482	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	541
Query Sbjct	541 542	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
_		RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	602	RLGAVQNETTETHFVTKTIMTCMSADLEVVTSTWVTVGGVTAATAATCLSTGCVVTVGRV RLGAVQNE+T THP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVTTTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	661
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	001
Sbjct	662	+LSGKPAIIPDREVLYREFDEMEEC ILSGKPAIIPDREVLYREFDEMEEC 686	
22,00	002		
>		2193 dbj BAD73974.1  polyprotein [Hepatitis C virus type 1b]	
•		23 bits (3165), Expect = 0.0, Method: Composition-based stats	
		= $627/685$ (91%), Positives = $664/685$ (96%), Gaps = $0/685$ (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg RT+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	

Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVEŞMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS +GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNSGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPAI+PDREVLY++FDEMEEC ILSGKPAIVPDREVLYQQFDEMEEC 1711	

# $> \frac{\text{Gi}|11559459|\text{dbj}|\text{BAB18809.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1223 bits (3165), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCP GH VGIFRAAVCTRGVAKAV+F+PVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPISYLKGSSGGPLLCPLGHVVGIFRAAVCTRGVAKAVEFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQAFOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	1266

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G+DPN+RTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAYGVDPNVRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELATKLSALGVNAVAYYRGLDVSVIPTNGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G++ PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDSFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGRPAIIPDREVLYQEFDEMEEC 1711	

# $> \frac{\text{gi}|56342191|\text{dbj}|BAD73973.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus type 1b]

Score = 1223 bits (3164), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A GP+ OMYTNVD DLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGKNGPITQMYTNVDLDLVGWQAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK	360

Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686 )
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY+EFDEMEEC	,
Sbjct	1687	ILSGKPAIVPDREVLYQEFDEMEEC 1711	

# > gi|7650224|gb|AAF65943.1| polyprotein [Hepatitis C virus] Length=3010

Score = 1223 bits (3164), Expect = 0.0, Method: Composition-based stats. Identities = 628/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA OTFLATC+NGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQTFLATCVNGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTI+T T+PQDAVSRTQRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIDTTTVPQDAVSRTQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY IDAHFLSQTKQ+G+N PY+VAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	RIDAHFLSQTKQAGDNFPYMVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAIIPDREVLYREFDEMEEC 1711	

# $> \Gamma$ gi|11559465|dbj|BAB18812.1| polyprotein [Hepatitis C virus] Length=3011

Score = 1223 bits (3164), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1028	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1087
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1088	SKTLAGPKGPITQMYTNVDQDLVGWLAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1147
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1148	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1207
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATL FGA	240
Sbjct	1208	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1267
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1268	YMSKAHGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1327
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGE+PFYGKAIP+E IK	360
Sbjct	1328	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEVPFYGKAIPIEAIK	1387
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1388	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTNGDVVVVATDALMTGFTG	1447
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1448	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1507
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET++RLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540

Sbjct	1508	RPSGMFDSSVLCECYDAGCAWYELTPAETSIRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1567
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1568	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1627
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEI LTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1628	RLGAVQNEIILTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1687
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLYREFDEMEEC	
Sbjct	1688	ILSGRPAVVPDREVLYREFDEMEEC 1712	

#### $> \Gamma gi|11559443|dbj|BAB18801.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1223 bits (3164), Expect = 0.0, Method: Composition-based stats.

Identities = 626/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%) Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLA+C+NGVCWTVYHGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLASCVNGVCWTVYHGAG 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq 120 ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D RGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR Sbjct 1147 DGRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 181 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 241 Query 300 YMSKAHG DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I Sbjct 1267 YMSKAHGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIK 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL LGINA+AYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLSGLGINAIAYYRGLDVSVIPTSGDVVVVATDALMTGFTG 1446 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSRTQRRGRTGRG+ GIYRFV PGE Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRTQRRGRTGRGRRGIYRFVTPGE 1506 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Query 481 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT  ${\tt RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT}$ Sbjct 1507 1566 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query 541 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626

KID=11	333067	/56-56/8-1993/051/911.BLASTQ4,	Page 10
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAV NE+TLTHPVTKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVHNEVTLTHPVTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	
>		29 dbj BAD73992.1  polyprotein [Hepatitis C virus type 1b]	·
		2 bits (3163), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKA+G+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAYGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIP1ETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686

VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY+EFDEMEEC

Query 661

#### $> \Gamma gi|56342225|dbj|BAD73990.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Expect = 0.0, Method: Composition-based stats. Score = 1222 bits (3163),Identities = 627/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG Sbjct 1027 APITAYAQOTRGLLGCIVTSLTGRDKNOVEGEVQVVSTATOSFLATCVNGVCWTVYHGAG 1086 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq Query 120 T+T+A KGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR Sbjct DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1147 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I Sbjct 1267 YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 Query +GIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK 1327 MGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK 1386 Sbjct Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG 1387 GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTNGDVVVVATDALMTGFTG 1446 Sbjct Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+PGIYRFV PGE  ${\tt DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRPGIYRFVTPGE}$ Sbjct 1447 1506 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT 1566 Sbjct 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Query HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvgqvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI Sbjct 1627 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC Sbjct 1687 ILSGKPAIVPDREVLYQQFDEMEEC 1711

 $> \Gamma \underline{gi|56342199|dbj|BAD73977.1|}$  polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1222 bits (3163), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG 1027 Sbjct APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR Query 180 DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR Sbjct 1147 DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Query 300 YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I Sbjct 1267 YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 Query LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK 1327 Sbjct LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG Sbjct 1387 1446 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE 1506 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Query 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWEGVFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT 1566 Query 541 HIDAHFLSOTKOSGENLPYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1626 601 Query RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+ 1627 RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI Sbjct 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC Sbjct 1687 ILSGKPAIVPDREVLYQQFDEMEEC 1711 > gi|56342197|dbj|BAD73976.1| polyprotein [Hepatitis C virus type 1b] Length=3010 Score = 1222 bits (3163), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%) Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG

1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG

1086

Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	1087	T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVL++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAATAAQGTKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711	

## $> \Gamma gi|56342195|dbj|BAD73975.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1222 bits (3163), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query Sbjct	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	60 1086
Query Sbjct	61 1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg RT+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG ARTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120 1146
Query	121	dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180

Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS +GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNSGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSDLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711	

#### $> \Gamma gi|496367|dbj|BAA03905.1|$ polyprotein precursor [Hepatitis C virus type 2] Length=2284

Score = 1222 bits (3162), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

```
Query
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
            APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG
Sbjct
       301
           APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG
                                                                            360
Query
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg
       61
                                                                            120
            ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       361
            SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            420
            \tt dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
       121
                                                                            180
            DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR
Sbjct
       421
            DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR
                                                                            480
Query
       181
            SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
            SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKV VLNPSVAATLGFGA
Sbjct
       481
            SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVRVLNPSVAATLGFGA
                                                                            540
```

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGI+PNIRTGVRTITTG PITYSTYGKFLADGGCSGGAYDIIICDECHSTD T+I	300
Sbjct	541	YMSKAHGIEPNIRTGVRTITTGGPITYSTYGKFLADGGCSGGAYDIIICDECHSTDWTTI	600
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	601	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGKAIPIEAIK	660
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	661	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	720
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	721	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	780
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	781	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	840
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	841	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	900
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TK++M CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	901	RLGAVQNEITLTHPITKFVMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	960
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLYREFDEMEEC	
Sbjct	961	ILSGRPAVVPDREVLYREFDEMEEC 985	

## $> \Gamma gi|1749762|dbj|BAA14035.1|$ unnamed protein product [Hepatitis C virus] Length=3010

Score = 1222 bits (3162), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKV VLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVRVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGI+PNIRTGVRTITTG PITYSTYGKFLADGGCSGGAYDIIICDECHSTD T+I	300
Sbjct	1267	YMSKAHGIEPNIRTGVRTITTGGPITYSTYGKFLADGGCSGGAYDIIICDECHSTDWTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360

		LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYGKAIP+E IK	
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEITLTHP+TK++M CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEITLTHPITKFVMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSG+PA++PDREVLYREFDEMEEC ILSGRPAVVPDREVLYREFDEMEEC 1711	

## $> \boxed{gi|56342227|dbj|BAD73991.1|}$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1222 bits (3161), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

1 .	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK +GIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+F IK	360
1327	MGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNVGEIPFYGKAIPIETIK	1386
361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
	1027 61 1087 121 1147 181 1207 241 1267 301 1327 361	APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG 1027 APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+PGIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRPGIYRFVTPGE	1506
Query O	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711	

## $> \frac{\text{gi}|7650226|\text{gb}|\text{AAF65944.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1222 bits (3161), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 660/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRG+LGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NG CWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGMLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOV HLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQV HLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEE ALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEAALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540

Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKO+G+N PYLVAYOATVCARAOAPPPSWDOMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

# $> \Gamma$ gi|56342209|dbj|BAD73982.1| polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1221 bits (3160), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)

Identi	ities =	= 626/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWLAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	120.7	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DP+IRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPSIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626

Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLS RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCLA		660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLT	'TGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY++FDEMEEC		
Sbjct	1687	ILSGKPAVLPDREVLYQQFDEMEEC 1711		

#### $> \Gamma \underline{gi|5918935|gb|AAD56183.1|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1221 bits (3160), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

200		02, 000 (500), 000 (00)	•
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGL GCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLFGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPN+RTGVRTITTG+ ITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300
Sbjct	1267	YMSKAHGIDPNVRTGVRTITTGASITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEV LS TGEIPFYGKAIP+E IK	360 1386
Sbjct	1327 361	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVGLSNTGEIPFYGKAIPIETIK GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Query Sbjct	1387	GGRHLIFCHSKKKCDELAKLVALGINAVATIRGEDVSVIPFIGDVVVVATDALMTGITG GGRHLIFCHSKKKCDELA KL LGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELATKLSTLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDFTFTIETTTLFQDAVSTCQTTGTCGTGRGFTGRFVAFGE DFDSVIDCNTCVTQTVDFSLDFTFTIETTTPQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDFTFTIETATVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQM KCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMLKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNEITLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEITLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
-			

+LSG+PAIIPDREVLYREFDEMEEC
Sbjct 1687 ILSGRPAIIPDREVLYREFDEMEEC 1711

#### $> \Gamma gi|56342215|dbj|BAD73985.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1221 bits (3159), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%) Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG 1027 APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG Sbjct 1086 Query TRTIASPKGPVIQMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrra 120 T+T+A KGP+ QMYTNVDQDLVGW AP G+RSL PCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087  ${\tt TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLIPCTCGSSDLYLVTRHADVIPVRRRG}$ 1146 Query dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR Sbjct 1147 DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1207 Sbjct SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 241 Query YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I Sbjct 1267 YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG 1446 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE 1506 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT 1566  ${\tt HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY}$ Query 541 600 HIDAHFLSQTKQ+G+N PYL+AYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLIAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 601 Query RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+ G VVIVGR+ Sbjct 1627 RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTAGSVVIVGRI. 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC Sbjct 1687 ILSGKPAIVPDREVLYQQFDEMEEC 1711

 $<sup>&</sup>gt; \Gamma \underline{gi|56342211|dbj|BAD73983.1|}$  polyprotein [Hepatitis C virus type 1b] Length=3010

```
Score = 1221 \text{ bits } (3159),
                            Expect = 0.0, Method: Composition-based stats.
 Identities = 626/685 (91%), Positives = 666/685 (97%), Gaps = 0/685 (0%)
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                             60
Query
             APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG
Sbjct
       1027 APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG
                                                                             1086
       61
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                             120
Query
             T+T+A KGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
       1087
             TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
                                                                             1146
Query
       121
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                             180
             DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR
Sbjct
       1147
             DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR
                                                                             1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                             240
             SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       1207
             SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                             1266
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                             300
Query
             YMSKAHG+DP+IRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I
Sbjct
       1267
             YMSKAHGVDPSIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI
                                                                             1326
             LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                             360
       301
Query
             LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK
             LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK
                                                                             1386
Sbjct
       1327
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                             420
Query
       361
             GGRHLIFCHS+KKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG
             GGRHLIFCHSRKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG
       1387
Sbjct
                                                                             1446
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE
                                                                             480
Query
       421
             DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE
                                                                             1506
       1447
Sbjct
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                             540
       481
Query
             RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT
             {\tt RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT}
                                                                             1566
       1507
Sbjct
                                                                             600
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Query
             HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
             HIDAHFLSOTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                             1626
       1567
Sbjct
             RLGAVONEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV
                                                                             660
       601
Query
             RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+
             RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                             1686
Sbjct
       1627
       661
             VLSGKPAIIPDREVLYREFDEMEEC
                                         685
Query
             +LSGKPA++PDREVLY++FDEMEEC
Sbjct
       1687
             ILSGKPAVLPDREVLYQQFDEMEEC
                                         1711
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## $> \frac{\text{Gi} | 7650238 | \text{gb} | \text{AAF65950.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1221 bits (3159), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG

			6
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg +T+A PKGP+ QMYTNVDQDLVGW +P G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	AKTLAGPKGPITQMYTNVDQDLVGWQSPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGI+P+IRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIEPSIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LG+GTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGVGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNAGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDENTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRÄGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGA+QNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGALQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYQEFDEMEEC 1711	

## $> \frac{\text{Gi}|31980453|\text{dbj}|\text{BAC77767.1}|}{\text{Length}=1984}$ NS protein [Hepatitis C virus]

Score = 1221 bits (3159), Expect = 0.0, Method: Composition-based stats. Identities = 630/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Query Sbjct		APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRD+NQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	60 60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120

RID=1153506756-5678-199370517911.BLASTQ4, Page 121 of 235					
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180		
Sbjct	121	D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DNRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	180		
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240		
Sbjct	181	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240		
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300.		
Sbjct	241	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	300		
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKA P+E IK	360		
Sbjct	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAFPIEAIK	360		
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420		
Sbjct	361	GGRHLIFCHSKKKCDELATKLSALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	420		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480		
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	480		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540		
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	540		
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct	541	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660		
Sbjct	601	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	660		
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY+EFDEMEEC			
Sbjct	661	ILSGKPAVIPDREVLYQEFDEMEEC 685			
>		086 dbj BAA09072.1  polyprotein [Hepatitis C virus]			
Score Ident	= 12: ities	21 bits (3159), Expect = 0.0, Method: Composition-based stats = 629/685 (91%), Positives = 659/685 (96%), Gaps = 0/685 (0%)			
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60		
Sbjct	1027	APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCTNGVCWTVYHGAG	1086		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120		
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180		
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206		
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKS KVP YAAQGYKVLVLNPSVAATLGFGA	240		

Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSNKVPVEYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPV QDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVWQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYREFDEMEEC 1711	

## $> \Gamma gi|56342231|dbj|BAD73993.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1221 bits (3158), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCI+TSLTGRDKNOVEGEVO+VSTA O+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGRV	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685. +LSGKPAI+PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAILPDREVLYQEFDEMEEC 1711	

## $> \frac{\text{Gi}[7650230]\text{gb}[\text{AAF}65946.1]}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1221 bits (3158), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T++	300
Sbjct	1267	YMSKAYGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTV	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEV LS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVGLSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420

Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRG+TGRG+ GIYRFV PGE	480		
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGKTGRGRRGIYRFVTPGE	1506		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540		
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566		
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626		
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRVRLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660		
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686		
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC			
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711			
> gi 221611 dbj BAA14233.1  unnamed protein product [Hepatitis C virus] gi 130469 sp P26662 POLG HCVJA Genome polyprotein [Contains: Core protein p21 (Capsid C) (p21); Core protein p19; Envelope glycoprotein E1 (gp32) (gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7; Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin) (NS3P) (p70); Nonstructural protein 4A (NS4A) (p8); Nonstructural protein 4B (NS4B) (p27); Nonstructural protein 5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)] Length=3010  Score = 1221 bits (3158)    Expect = 0.0    Method: Composition-based state					
Nonstr 5A (NS Length Score	uctura 5A) (p =3010 = 122	<pre>1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)] 1 bits (3158), Expect = 0.0, Method: Composition-based stats.</pre>			
Nonstr 5A (NS Length Score Ident	uctura 5A) (p =3010 = 122 ities	<pre>1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)</pre>	60		
Nonstr 5A (NS Length Score Ident	uctura 5A) (p =3010 = 122	<pre>1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG</pre>	60 1086		
Nonstr 5A (NS Length Score Ident Query	uctura 5A) (p =3010 = 122 ities	<pre>1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG</pre>	60 1086 120		
Nonstr 5A (NS Length Score Ident Query Sbjct	uctura 5A) (p =3010 = 122 ities 1 1027	<pre>1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG</pre>	1086		
Nonstr 5A (NS Length Score Ident Query Sbjct Query	uctura 5A) (p =3010 = 122 ities 1 1027 61	<pre>1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADV+PVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR</pre>	1086 120		
Nonstr 5A (NS Length Score Ident Query Sbjct Query Sbjct	uctura 5A) (p =3010 = 122 ities 1 1027 61 1087	<pre>1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RS+TPCTCGSSDLYLVTRHADV+PVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG</pre>	1086 120 1146		
Nonstr 5A (NS Length Score Ident Query Sbjct Query Sbjct Query	uctura 5A) (p =3010 = 122 ities 1 1027 61 1087 121	l protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  l bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RS+TPCTCGSSDLYLVTRHADV+PVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1086 120 1146 180		
Nonstr 5A (NS Length Score Ident Query Sbjct Query Sbjct Query Sbjct	uctura 5A) (p =3010 = 122 ities 1 1027 61 1087 121 1147	l protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  l bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RS+TPCTCGSSDLYLVTRHADV+PVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1086 120 1146 180 1206		
Nonstr 5A (NS Length Score Ident Query Sbjct Query Sbjct Query Sbjct Query	uctura 5A) (p =3010 = 122 ities 1 1027 61 1087 121 1147 181	1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAPGARSMTPCTCGSSDLYLVTRHADVPVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVESMETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQFFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1086 120 1146 180 1206 240		
Nonstr 5A (NS Length Score Ident Query Sbjct Query Sbjct Query Sbjct Query Sbjct	uctura 5A) (p =3010 = 122 ities 1 1027 61 1087 121 1147 181 1207	1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADV+PVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1086 120 1146 180 1206 240		
Nonstr 5A (NS Length Score Ident Query Sbjct Query Sbjct Query Sbjct Query Sbjct Query	uctura 5A) (p =3010 = 122 ities 1 1027 61 1087 121 1147 181 1207 241	1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVPVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR  SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA YMSKAHGIPPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIPPNIRTGVRTITTG PITYSTY KFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIPPNIRTGVRTITTG PITYSTY KFLADGGCSGGAYDIIICDECHSTDATTI LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1086 120 1146 180 1206 240 1266 300		
Nonstr 5A (NS Length Score Ident Query Sbjct Query Sbjct Query Sbjct Query Sbjct Query Sbjct	uctura 5A) (p =3010 = 122 ities 1 1027 61 1087 121 1147 181 1207 241 1267	1 protein 4B (NS4B) (p27); Nonstructural protein 56); RNA-directed RNA polymerase (NS5B) (p68)]  1 bits (3158), Expect = 0.0, Method: Composition-based stats. = 627/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)  APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVPVRRRG SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVVPVRRRG dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR  SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA YMSKAHGIPPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIPPNIRTGVRTITTG PITYSTY KFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIPPNIRTGVRTITTG PITYSTY KFLADGGCSGGAYDIIICDECHSTDATTI	1086 120 1146 180 1206 240 1266 300		

Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420

•		GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSR QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRAQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+NLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYQEFDEMEEC 1711	

## $> \frac{\text{gi}|1181832|\text{gb}|AAA86907.1|}{\text{Length}=3010}$ polyprotein

Score = 1221 bits (3158), Expect = 0.0, Method: Composition-based stats. Identities = 629/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPVTQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGK+TKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKTTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPH NIEEVALS GEIPFYGKAIPLE IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHSNIEEVALSNIGEIPFYGKAIPLENIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHS+KKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSRKKCDELAAKLSGLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCN CVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNVCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	1506

Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCE YDAGCAWYELTPAE +VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCESYDAGCAWYELTPAEASVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TGCVVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGCVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAI+PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGRPAIVPDREVLYQEFDEMEEC 1711	

# $> \frac{\text{Gi}|4753719|\text{emb}|\text{CAB41950.1}|}{\text{Length}=3012}$ polyprotein [Hepatitis C virus]

Score = 1220 bits (3157), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

		= 627/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1029	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLV+RHADVIPVRRRG	120
Sbjct	1089	SKTLAGPKGPITQMYTNVDQDLVGWPAPSGARSLTPCTCGSSDLYLVSRHADVIPVRRRG	1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETT R	180
Sbjct	1149	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTTR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	1209	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DP+IRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1269	YMSKAHGVDPSIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1328
Query Sbjct	301 1329	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E I+ LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIR	360 1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAA+L LGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAQLSGLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtgrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1568
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

Sbjct	1569		CARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY CARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1628
Query	601		LEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV LEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1629	_	LEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1688
Query	661	VLSGKPAIIPDREVLYREFDEMEEC +LSGKPAI+PDR VLYREFDEMEEC	685	
Sbjct	1689	ILSGKPAIVPDRGVLYREFDEMEEC	1713	

## > 1.0 gi|56342221|dbj|BAD73988.1| polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1220 bits (3157), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

ruenc.	reres .	-024/003 (918), POSICIVES $-004/003$ (908), Gaps $=0/003$ (08)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DP+IRTGVRT+TTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPSIRTGVRTVTTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVS+IP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSIIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCV QTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVIQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC Sbjct 1687 ILSGKPAIVPDREVLYQQFDEMEEC 1711

#### $> \Gamma gi|56342217|dbj|BAD73986.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1220 bits (3157), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

raciic	10100	257 003 (3107, 1031C1VC3 = 0037 003 (3007, Gaps = 07003 (007	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrg T+T+AS KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLASQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DNRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG++PNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVEPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDE+AAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDEVAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVÍDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCL RLKP LHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPVLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ THP+TKYIMTCM+ADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVIFTHPITKYIMTCMAADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711	

#### $> \Gamma gi|56342213|dbj|BAD73984.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1220 bits (3156), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query 1 60 APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG 1027 APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG Sbjct 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 T+T+A KGP+ QMYTNVDQDLVGW AP G+RSL PCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 TKTLAGQKGPITOMYTNVDQDLVGWQAPPGARSLIPCTCGSSDLYLVTRHADVIPVRRRG 1146 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 Query DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR 1147 DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR Sbjct 1206 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 181 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 241 Query YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 Sbjct 1267 360 301 LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK 1386 Sbjct 1327 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 Query 361 GGRHLIFCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG  ${\tt GGRHLIFCHSKKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG}$ 1446 Sbjct 1387 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE Query 421 480 DFDSVIDCNTCVTQTVD SLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDLSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE 1506 1447 Sbjct RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 481 Query RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT 1566 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT Sbjct 1507 600 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query HIDAHFLSQTKQ+G+N PYL+AYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSOTKOAGDNFPYLIAYOATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 Query 601 RLGAVONE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+ G VVIVGR+ Sbjct 1627 RLGAVONEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTAGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC Sbjct 1687 ILSGKPAIVPDREVLYQQFDEMEEC

#### $> \Gamma \underline{\text{gi}|221605|\text{dbj}|BAA02756.1|}$ polyprotein precursor [Hepatitis C virus] Length=3010

Score = 1220 bits (3156), Expect = 0.0, Method: Composition-based stats. Identities = 623/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRG+LGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YM KAHGIDPNIRTGVRTITTG PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMPKAHGIDPNIRTGVRTITTGGPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDV VVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVAVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGL+ RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLS	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct		RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPA++PDREVLY+EFDEMEEC ILSGKPAVVPDREVLYQEFDEMEEC 1711	

#### $> \frac{\text{Gi}|1814087|\text{dbj}|\text{BAA09073.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1220 bits (3156), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query Sbjct		APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	60 1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120

			_
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTG RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGARTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPL+ IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLDTIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIF HSKKKCDELA KL ALG+NAVAYYRGLDVSVIP G+VVVVATDALMTGYTG GGRHLIFWHSKKKCDELATKLSALGVNAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCV QTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVIQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	R SGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RTSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPA+IPDREVLYREFDEMEEC ILSGKPAVIPDREVLYREFDEMEEC 1711	

## $> \frac{\text{Gi}|18027685|\text{gb}|AAL55821.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1219 bits (3155), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWLAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206

Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVONEVILTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711	

## $> \frac{\text{gi} | 7650250 | \text{gb} | \text{AAF65956.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1219 bits (3155), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYCQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWLAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETT R	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTTR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+TSI	300

Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIALSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPVSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE D DSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DLDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKO+G+NLPYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVVPDREVLYREFDEMEEC 1711	

# $> \Gamma$ gi|11559467|dbj|BAB18813.1| polyprotein [Hepatitis C virus] Length=3010

Score = 1219 bits (3155), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 664/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA O+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYA QGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYATQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G+DPN+RTGVRT+TTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGMDPNLRTGVRTVTTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386

Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE +FDSVIDCNTCV QTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	NFDSVIDCNTCVNQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKO+G+N PYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYQEFDEMEEC 1711	

#### $> \Gamma gi|11559463|dbj|BAB18811.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1219 bits (3155), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	1087	++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DS+GSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSKGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKA+G+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAYGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEV LS TGEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVGLSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAA+L++LG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAARLLSLGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480

Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWD MWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDLMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVVLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+P IIPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPVIIPDREVLYREFDEMEEC 1711	

## $> \frac{\text{Gi}|56342205|\text{dbj}|\text{BAD73980.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus type 1b]

Score = 1219 bits (3154), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL GCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLFGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDP+IRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPSIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327 361	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAEKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	420 1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDFTFTIETTTBFQDAVSTCQTTGTGTGRGFTGTRFVAFGE DFDSVIDCNTCVTQTVDFSLDFTFTIETTTVPQDAVSRSQRRGRTGRGRTGTYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
	1307	WE GOLF DODA TO TO TO WITH LITTLE LOAD WITH THE LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT IN LANGUE ACCOUNT ACCOUNT ACCOUNT IN LANGUE ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT ACCOUNT A	1200

Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTK+I CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGRV	660
Sbjct	1627	RLGAVQNEVTLTHPVTKFITACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAI+PDREVLY++FDEMEEC	
Sbict	1687	ILSGRPAIVPDREVLYOOFDEMEEC 1711	

#### > $\frac{\text{gi}|385584|\text{gb}|\text{AAB27127.1}|}{\text{gi}|743453|\text{prf}||2012309A}}$ polyprotein [Hepatitis C virus] Length=3014

Score = 1218 bits (3152), Expect = 0.0, Method: Composition-based stats. Identities = 622/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Identi	ities =	= 622/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY++QTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSRQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPIAQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVG+FRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DNRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGVFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTD SSPP VPQ+FQVAHLHAPTGSGKST+VPAAYA QGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDTSSPPAVPQTFQVAHLHAPTGSGKSTRVPAAYATQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E I	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIM	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDS VLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSPVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660

RLGAVQNE+TLTHP+TKYIM CM ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVTLTHPITKYIMACMWADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI Sbjct 1627 1686 661 Query VLSGKPAIIPDREVLYREFDEMEEC +LSG+PA++PDREVLYREFDEMEEC Sbjct 1687 ILSGRPAVVPDREVLYREFDEMEEC 1711 > [ gi|560789|dbj|BAA06303.1| polyprotein [Hepatitis C virus] Length=3010 Score = 1218 bits (3151),Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG Sbjct 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq 120 ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPV RRG 1087 Sbjct SKTLAGPKGPITQMYTNVDQDLVGWSAPPGARSLTPCTCGSSDLYLVTRHADVIPVHRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSP PISYLKGSSGGPL CP+G VGIFRAAVCTRGVAKAVDF+PVE++ETTMR Sbjct 1147 DSRGSLLSPGPISYLKGSSGGPLPCPSGRVVGIFRAAVCTRGVAKAVDFVPVESMETTMR 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDNS+PP VPQ+FQVAHLHAPTGSGKST+VPAAYAAQGYKVLVLNPSVAATLGFGA 1207 SPVFTDNSTPPAVPQTFQVAHLHAPTGSGKSTRVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1266 241 Query YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI Sbjct 1267 YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI 1326 301 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPLE IK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLEAIK 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVS+IP GDVVVVATDALMTGYTG 1387 Sbjct GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSIIPTSGDVVVVATDALMTGYTG 1446 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE 1506 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 541 Query HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARA+APPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAKAPPPSWDOMWKCLIRLKPTLHGPTPLLY 1626 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvgqvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI Sbjct 1627 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLY+EFDEMEEC Sbjct 1687 ILSGRPAVIPDREVLYQEFDEMEEC 1711

## > L gi|56342219|dbj|BAD73987.1| polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1217 bits (3149), Expect = 0.0, Method: Composition-based stats. Identities = 623/685 (90%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	,1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP·VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG++PNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVEPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCL RLKP LHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPVLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ THP+TK+IMTCM+ADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVIFTHPITKFIMTCMAADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711	

## $> \Gamma gi|3098633|gb|AAC15722.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1217 bits (3149), Expect = 0.0, Method: Composition-based stats.

Identities = 622/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%) Query APITAYAQOTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRG+LGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG 1027 APITAYSQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG Sbjct 1086 61 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq 120 ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG Sbjct 1087 SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR Sbjct 1147 DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 240 SPVFTDNS+PP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1207 SPVFTDNSTPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1266 Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I 1267 Sbjct YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK Sbjct 1386 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG Query 420 GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG 1387 GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG Sbjct 1446 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtgrqKPGIYRFVAPGE 480 Query DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE 1506 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 481 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT Sbjct 1507 RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSOTKO+G+N PYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 1626 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC Sbjct 1687 ILSGKPAVVPDREVLYQEFDEMEEC 1711 > \[ \text{gi} \ \ 86372255 \| \text{gb} \| \text{ABC95195.1} \] \text{polyprotein [Hepatitis C virus]} Length=3014

Score = 1217 bits (3149), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60
APITAYAQQTRGLLGCI+TSLTGRD+NQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG
Sbjct 1031 APITAYAQQTRGLLGCIVTSLTGRDRNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG 1090

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Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV QMYTNVDQDLVGWPAP G+RSLT CTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1091	SKTLAGPKGPVTQMYTNVDQDLVGWPAPPGARSLTACTCGSSDLYLVTRHADVIPVRRRG	1150
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+S LKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1151	DSRGSLLSPRPLSNLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1210
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPV+TDNSSPP VPQ+FQVA+LHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1211	SPVYTDNSSPPAVPQTFQVAYLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1270
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1271	YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1330
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1331	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1390
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1391	GGRHL FCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLTFCHSKKKCDELAAKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1450
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1451	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSR+QRRGRTGRGF+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1510
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1511	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1570
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1571	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1630
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660 .
Sbjct	1631	RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVI GR+RLGAVQNEVTLTHPMTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIAGRI	1690
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1691	+LSG+PA++PDREVLYREFDEMEEC ILSGRPAVVPDREVLYREFDEMEEC 1715	

## $> \Gamma \underline{gi|67773303|gb|AAY81920.1|}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1217 bits (3148), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRG+LGCIITSLTGRDKNOVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180

Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSTPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS+TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSSTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDV+VVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVIVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRMGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+T THP+TKYIM CM+ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTTTHPITKYIMACMAADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYREFDEMEEC 1711	

## $> \frac{\text{gi}|56342223|\text{dbj}|BAD73989.1|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus type 1b]

Score = 1217 bits (3148), Expect = 0.0, Method: Composition-based stats. Identities = 623/685 (90%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPiSYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+P E +ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPAEAMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ++QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Shict	1207	SPVETONSSPPAVPOAYOVAHI.HAPTGSGKSTKVPAAYAAOGYKVI.VI.NPSVAATI.GFGA	1266

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G+DPNIRTGVRT+TTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGVDPNIRTGVRTVTTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHS+KKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSRKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCV QTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVIQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGKPAIVPDREVLYQQFDEMEEC 1711	

## $> \frac{\text{gi}|221607|\text{dbj}|\text{BAA01583.1}|}{\text{Length=3010}}$ polyprotein precursor [Hepatitis C virus]

Score = 1217 bits (3148), Expect = 0.0, Method: Composition-based stats. Identities = 623/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRG+LGCIITSLTGRDKNQVEGEVQ+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	1087	++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360

Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386 .
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PODAVSR+ORRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPA++PDREVLY+EFDEMEEC ILSGKPAVVPDREVLYQEFDEMEEC 1711	

## $> \frac{\text{gi}|80322852|\text{gb}|ABB52628.1|}{\text{Length}=2314}$ polyprotein [Hepatitis C virus]

Score = 1216 bits (3147), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	354	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	413
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	414	SKTLAGPKGPITQMYTNVDQDLVGWPAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	473
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRPISYLKGSSGGPLLCP+GH GIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	474	DNRGSLLSPRPISYLKGSSGGPLLCPSGHVAGIFRAAVCTRGVAKAVDFVPVESMETTMR	533
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTK PAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	534	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKAPAAYAAQGYKVLVLNPSVAATLGFGA	593
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDEC TD+TSI	300
Sbjct	594	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECRPTDSTSI	653
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E K	360
Sbjct	654	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETTK	713
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGR+LIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	714	GGRYLIFCHSKKKCDELAAKLSALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	773

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	774	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	833
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	834	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	893
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCL+RLKPTLHGPTPLLY	600
Sbjct	894	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLMRLKPTLHGPTPLLY	953
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIMTCM+ADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	954	RLGAVQNEVTLTHPITKYIMTCMAADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1013
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA IPDREVLYREFDEMEEC	
Sbjct	1014	ILSGRPATIPDREVLYREFDEMEEC 1038	

## $> \frac{\text{Gi}[5918963]\text{gb}[AAD56197.1]}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1216 bits (3146), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NGVCWTV+HGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTG RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTDPNIRTGARTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYG+AIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGRAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP G+VVVVATDALMTGYTG	420
Sbjct	1387	EGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540

Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQN++TLTHP+TK IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNDVTLTHPITKLIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRL	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

#### $> \Gamma gi|5918961|gb|AAD56196.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1216 bits (3146), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTG RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTDPNIRTGARTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYG+AIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGRAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP G+VVVVATDALMTGYTG	420
Sbjct	1387	EGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626

KID=1	153506	/56-56/8-1993/051/911.BLASTQ4,	Page 14
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQN++TLTHP+TK IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNDVTLTHPITKLIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRL	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	
>∏ gi Length		76 dbj BAA19625.1  unnamed protein product [Hepatitis C virus	]
Score Ident	= 121 ities	6 bits (3145), Expect = 0.0, Method: Composition-based stats. = 625/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPL CP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLPCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA +PVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	APVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIİ+CDECHSTD+T+I	300
Sbjct	1267	YMSKAYGTDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGT LDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTALDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSTLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQA PPSWDQMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQASPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct Query	1627 661	RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI VLSGKPAIIPDREVLYREFDEMEEC 685	1686
·- <b>_</b>		+LSGKPA+IPDREVLYREFDEMEEC	

Sbjct 1687 ILSGKPAVIPDREVLYREFDEMEEC 1711

#### > gi|1814089|dbj|BAA09076.1| polyprotein [Hepatitis C virus] Length=3010

Score = 1216 bits (3145), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 657/685 (95%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC NGVCWTVYHGAG 1027 APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCTNGVCWTVYHGAG Sbjct 1086 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 ++T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1087 SKTLAGSKGPITOMYTNVDODLVGWQAPSGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 Query D RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR Sbjct 1147 DGRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR 1206 Query 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKS KVP YAAQGYKVLVLNPSVAATLGFGA Sbjct 1207  ${\tt SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSNKVPVEYAAQGYKVLVLNPSVAATLGFGA}$ 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI 1267 YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI 1326 Sbjct 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK 1386 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 361 Query GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLSGLGINAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG 1446 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 Query DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE 1506 Sbjct 1447 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 Query RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPV QDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVWQDHLEFWESVFTGLT 1566 Sbjct 1507 600 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV 660 Ouerv RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ 1627 RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Sbjct Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLYREFDEMEEC Sbjct 1687 ILSGKPAIIPDREVLYREFDEMEEC 1711

 $<sup>&</sup>gt; \Gamma gi|19568933|gb|AAL91977.1|$  polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1215 bits (3144), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%) 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC++G CWTVYHGAG 1027 Sbjct  ${\tt APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVSGACWTVYHGAG}$ 1086 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg Query 61 120 ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG 1087 Sbjct SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR Query 180 DSRGSLLSPRPISYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR 1147 DSRGSLLSPRPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR Sbjct 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA Sbjct 1207 1266 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Query 241 300 YMSKAHG++PNIRTGVRT+TTG+ ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGVEPNIRTGVRTVTTGAGITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI Sbjct 1267 1326 Query 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPVEVIK 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG 1387 GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG Sbjct 1446  ${\tt DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE}$ Query 421 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE Sbjct 1447 1506 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VR+RAY+NTPGLPVCQDHLEFWE VFTGLT 1507 Sbjct RPSGMFDSSVLCECYDAGCAWYELTPAETSVRVRAYLNTPGLPVCQDHLEFWESVFTGLT 1566 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV R+GAVQNE+ LTHPVTKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RMGAVQNEVNLTHPVTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 661 VLSGKPAIIPDREVLYREFDEMEEC Query +LSGKPAIIPDRE LY+ FDEMEEC Sbict 1687 ILSGKPAIIPDREALYQAFDEMEEC 1711 > gi|5634223<u>5|dbj|BAD73995.1|</u> polyprotein [Hepatitis C virus type 1b] Length=3010 Score = 1215 bits (3144), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 659/685 (96%), Gaps = 0/685 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query 1 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG 1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG 1086

Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
`Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCN CVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ G YRFV PGE DFDSVIDCNVCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGTYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+ LTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVVLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPAI+PDRE LY++FDEMEEC ILSGKPAIVPDREALYQQFDEMEEC 1711	

#### $> \Gamma gi|56342233|dbj|BAD73994.1|$ polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1215 bits (3144), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 659/685 (96%), Gaps = 0/685 (0%)

Query Sbjct	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	60 1086
Query Sbjct	61 1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120 1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180

Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNIGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCN CVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ G YRFV PGE DFDSVIDCNVCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRTGTYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+ LTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVVLTHPITKFIMACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPAI+PDRE LY++FDEMEEC ILSGKPAIVPDREALYQQFDEMEEC 1711	

# $> \Gamma$ gi|3098637|gb|AAC15724.1| polyprotein [Hepatitis C virus] Length=3010

Score = 1215 bits (3144), Expect = 0.0, Method: Composition-based stats. Identities = 621/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QOTRG+LGC+ITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCVITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSR5QRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAW+ELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWHELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLĢAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSGKPA++PDREVLY+EFDEMEEC ILSGKPAVVPDREVLYQEFDEMEEC 1711	

#### $> \boxed{\text{gi|15487694|gb|AAL00900.1|}}$ polyprotein [Hepatitis C virus] Length=3010

Score = 1214 bits (3142), Expect = 0.0, Method: Composition-based stats. Identities = 622/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QOTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVDODLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DNRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFG	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGT	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G+DPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+T++	300
Sbjct	1267	YMSKAYGVDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIMCDECHSTDSTTV	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360

Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ALS TGEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE D DSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DSDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETFVRLRAYLNTPGLPVCQDHLEFWE VFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWK LIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKSLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG VO+EITLTHPVTKYIM CMSADLEVVTSTWVLV GVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGTVQSEITLTHPVTKYIMACMSADLEVVTSTWVLVSGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711	

# $> \Box gi|3098635|gb|AAC15723.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1214 bits (3141), Expect = 0.0, Method: Composition-based stats. Identities = 620/685 (90%), Positives = 659/685 (96%), Gaps = 0/685 (0%)

Query	1 .	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRG+LGC+ITSLTGRDKNOVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCVITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+ OVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTSQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWV VGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVPVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAVVPDREVLYQEFDEMEEC 1711	

#### $> \frac{\text{Gi}[3098651]\text{gb}[AAC15730.1]}{\text{Length}=2864}$ polyprotein [Hepatitis C virus]

Score = 1214 bits (3140), Expect = 0.0, Method: Composition-based stats. Identities = 622/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QOTRG+LGC+ITSLTGRDKNQVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCVITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540

Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET\$VRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAVVPDREVLYQEFDEMEEC 1711	

# $> \Gamma$ gi|3098648|gb|AAC15729.1| polyprotein [Hepatitis C virus] Length=2864

Score = 1213 bits (3139), Expect = 0.0, Method: Composition-based stats. Identities = 622/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Ident	ities =	= $622/685$ (90%), Positives = $661/685$ (96%), Gaps = $0/685$ (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRG+LGCIITSLTGRDKNQVEGEVQ+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSTPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626

Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVG	
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVG	RI 1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAVVPDREVLYQEFDEMEEC 1711	

# $> \Gamma gi|15529111|gb|AAK97744.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1213 bits (3138), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGACWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP GSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+ HAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSRHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVR ITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRAITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS GEIPFYGKAIP+EVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNAGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKK DELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKYDELAAKLSALGLNAVAYYRGLDVSVIPTNGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAV+R+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVARSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWE V TGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVSTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPMTKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	

+LSG+PA+IPDREVLYREFDEMEEC
Sbjct 1687 ILSGRPAVIPDREVLYREFDEMEEC 1711

#### $> \Gamma gi|3098644|gb|AAC15727.1|$ polyprotein [Hepatitis C virus] Length=2864

Score = 1213 bits (3138), Expect = 0.0, Method: Composition-based stats. Identities = 622/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%) 1 Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRG+LGCIITSLTGRDKNQVEGEVQ+VSTA +FLATCINGVCWTVYHGAG 1027 APITAYSQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATHSFLATCINGVCWTVYHGAG Sbjct 1086 Query TRTIASPKGPVIQMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrra 120 ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG Sbjct 1087 SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR Sbjct 1147 DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR 1206 181  ${\tt SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA}$ Query 240 SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I Sbjct 1267 YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query 360 LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK Sbjct 1327 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG 1387 GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG Sbjct 1446 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE Query 421 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV+PGE Sbjct 1447 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVSPGE 1506 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT 1507 1566 Sbjct RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Query HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIDAHFLSOTKOAGDNFPYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY 1626 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvgqvlaalaaYCLSTGCVVIVGRV 660 RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC Sbjct 1687 ILSGKPAVVPDREVLYQEFDEMEEC 1711

 $> \Gamma gi|3098639|gb|AAC15725.1|$  polyprotein [Hepatitis C virus] Length=3010

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Score = 1213 bits (3138), Expect = 0.0, Method: Composition-based stats.
 Identities = 621/685 (90%), Positives = 659/685 (96%), Gaps = 0/685 (0%)
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Query
                                                                            60
             APITAY+QQTRG+LGC ITSLTGRDKNQVEGEVQ+VSTA +FLATCINGVCWTVYHGAG
Sbjct
             APITAYSQQTRGVLGCXITSLTGRDKNQVEGEVQVVSTATXSFLATCINGVCWTVYHGAG
                                                                            1086
       61
Query
             TRTIASPKGPVIOMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                            120
             ++T+A PKGP+ OMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG
Sbjct
       1087
             SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG
                                                                            1146
Query
       121
             dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
             DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR
Sbjct
       1147
             DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR
                                                                            1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
             SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
       1207
Sbjct
             SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            1266
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
Query
             YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I
Sbjct
       1267
             YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI
                                                                            1326
       301
Query
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK
Sbjct
       1327
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK
                                                                            1386
Query
       361
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
             GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG
Sbjct
       1387
             GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG
                                                                            1446
Query
       421
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE
                                                                            480
             DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE
       1447
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE
                                                                            1506
Sbjct
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT
                                                                            540
Query
             RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT
Sbjct
       1507
             RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCODHLEFWESVFTGLT
                                                                            1566
Query
       541
             HIDAHFLSOTKOSGENLPYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY
                                                                            600
             HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct
       1567
             HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                            1626
       601
Query
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV
                                                                            660
             RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
Sbjct
       1627
             RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                            1686
       661
Query
             VLSGKPAIIPDREVLYREFDEMEEC
                                         685
             +LSGKPA++PDREVLY+EFDEMEEC
             ILSGKPAVVPDREVLYQEFDEMEEC
Sbjct
       1687
                                        1711
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# $> \Gamma gi|1814090|dbj|BAA09075.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1212 bits (3136), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 659/685 (96%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG

Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTG RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNIRTGARTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIPL+ IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPLDTIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIF HSKKKCDELA KL ALG+NAVAYYRGLDVSVIP G+VVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFWHSKKKCDELATKLSALGVNAVAYYRGLDVSVIPTSGNVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCV QT DFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVIQTDDFSLDPTFTIETRTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT R SGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RTSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCL RLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLTRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVILTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGKPAVIPDREVLYREFDEMEEC 1711	

# $> \frac{\text{gi}|56342207|\text{dbj}|\text{BAD73981.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus type 1b]

Score = 1212 bits (3135), Expect = 0.0, Method: Composition-based stats. Identities = 619/685 (90%), Positives = 657/685 (95%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL GCI+TSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLFGCIVTSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+T+A KGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTR+ADVIPVRRRG	120
Sbjct	1087	TKTLAGQKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRYADVIPVRRRG	1146

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAVKLSSLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+Q RGRTG G G+YRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQLRGRTGSGTTGMYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT R SGMFDSSVLCECYDAGC WYELTPAET+VRLRAY+N PGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RTSGMFDSSVLCECYDAGCTWYELTPAETSVRLRAYLNAPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY IDAHF+SQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	KIDAHFMSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEV TSTWVLVGGVLAALAAYCL+TG VVIVGRV	660
Sbjct	1627	RLGAVQNEVTLTHP1TKF1MACMSADLEVATSTWVLVGGVLAALAAYCLTTGSVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAI+PDREVLY++FDEMEEC	
Sbjct	1687	ILSGRPAIVPDREVLYQQFDEMEEC 1711	

#### $> \Gamma gi|3098646|gb|AAC15728.1|$ polyprotein [Hepatitis C virus] Length=2864

Score = 1212 bits (3135), Expect = 0.0, Method: Composition-based stats. Identities = 621/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRG+LGC+ITSLTGRDKNOVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCVITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ OMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240

Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAW+ELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWHELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAVVPDREVLYQEFDEMEEC 1711	

# $> \Gamma \underline{\text{gi}|59479|\text{emb}|\text{CAA43793.1}|}$ JK1-full [Hepatitis C virus] Length=3010

Score = 1211 bits (3134), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 658/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGL GCI+TSLTGRDKNQVEGE O+VSTA O+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLFGCIVTSLTGRDKNQVEGEAQVVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+ SLTPCT GSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPINQMYTNVDQDLVGWQAPSGAASLTPCTYGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNI TGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPNISTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLA ATPPGSVTVPHPNIEEVAL TGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLAAATPPGSVTVPHPNIEEVALPNTGEIPFYGKAIPLETIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPA T+VRLRAY+NTPGLPVCQ HLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAVTSVRLRAYLNTPGLPVCQVHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGRPAIIPDREVLYQEFDEMEEC 1711	

#### $> \Gamma gi|3810874|dbj|BAA20975.1|$ precursor polyprotein [Hepatitis C virus] Length=1186

Score = 1211 bits (3134), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

```
Query
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
            APITAY+QQTRGLLGCIITSLTGRDKNQV+GEVQ++STA Q+FLATC+NGVCWTVYHGAG
       305
Sbjct
            APITAYSQQTRGLLGCIITSLTGRDKNQVDGEVQVLSTATQSFLATCVNGVCWTVYHGAG
                                                                            364
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg
Query
                                                                            120
            ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RS+TPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       365
            SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSMTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            424
       121
            dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
Query
            DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR
Sbjct
       425
            DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR
                                                                            484
            SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Query
       181
                                                                            240
            SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
            SPVFTDNSSPPAVPOTFOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA
Sbjct
       485
                                                                            544
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Query
       241
                                                                            300
            YMSKAHGI+PNIRTGVRTITTG PITYSTY KFLADGGCSGGAYDIIICDECHSTD+T+I
Sbjct
       545
            YMSKAHGIEPNIRTGVRTITTGGPITYSTYCKFLADGGCSGGAYDIIICDECHSTDSTTI
                                                                            604
            LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
Query
       301
                                                                            360
            LGIGTVLDQAETAGARLVVLATATPPGS+TVPHPNIEEVALS TGEIPFYGKAIP+E IK
Sbjct
       605
            LGIGTVLDQAETAGARLVVLATATPPGSITVPHPNIEEVALSNTGEIPFYGKAIPIEAIK
                                                                            664
Query
       361
            GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
            GGRHLIFCHSKKKCDELAAKL
                                   LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG
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RID=1	Page 162 of 235		
Sbjct	665	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	724
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSR QRRGRTGRG+ GIYRFV PGE	480
Sbjct	725	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRAQRRGRTGRGRSGIYRFVTPGE	784
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	785	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	844
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	845	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	904
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TK++M CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660

905 RLGAVQNEITLTHPITKFVMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 964

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLYREFDEME C

Sbjct 965 ILSGRPAVVPDREVLYREFDEMEAC 989

#### $> \boxed{gi|3098653|gb|AAC15731.1|}$ polyprotein [Hepatitis C virus] Length=2864

Score = 1211 bits (3132), Expect = 0.0, Method: Composition-based stats. Identities = 621/685 (90%), Positives = 660/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG A ITAY+OOTRG+LGC+ITSLTGRDKNOVEGEVO+VSTA O+FLATCINGVCWTVYHGAG	60
Sbjct	1027	ASITAYSQQTRGVLGCVITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506

Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKO+G+N PYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Query Sbjct	601 1627	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	660 1686
		RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	

#### $> \boxed{\text{gi}|3098642|\text{gb}|\text{AAC15726.1}|}$ polyprotein [Hepatitis C virus] Length=2864

Score = 1210 bits (3131), Expect = 0.0, Method: Composition-based stats. Identities = 620/685 (90%), Positives = 659/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRG+LGC+ITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGVLGCVITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+ QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTSQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATV	/CARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	~	LEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV LEVVTSTWV VGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	~	LEVVTSTWVPVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC +LSGKPA++PDREVLY+EFDEMEEC	685	
Sbict	1687	ILSGKPAVVPDREVLYOEFDEMEEC	1711	

# $> \Gamma gi|3098655|gb|AAC15732.1|$ polyprotein [Hepatitis C virus] Length=2864

Score = 1210 bits (3130), Expect = 0.0, Method: Composition-based stats. Identities = 620/685 (90%), Positives = 659/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APIT Y+QQTRG+LGCIITSLTGRDKNQVEGEVQ+VSTA +FLATCINGVCWTVYHGAG	60
Sbjct	1027	APITTYSQQTRGVLGCIITSLTGRDKNQVEGEVQVVSTATHSFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVD DLVGW AP G+RS+TPC+CGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDLDLVGWQAPPGARSMTPCSCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPiSYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVVGVFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQV HLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVVHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGGSITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE+ LS GEIPFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEIGLSNNGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIPPIGDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLTGLGLNAVAYYRGLDVSVIPPIGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV+PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRSGIYRFVSPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+ LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVILTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA++PDREVLY+EFDEMEEC

Sbjct 1687 ILSGKPAVVPDREVLYQEFDEMEEC 1711

#### $> \Gamma gi|80322850|gb|ABB52627.1|$ polyprotein [Hepatitis C virus] Length=2383

Score = 1209 bits (3127), Expect = 0.0, Method: Composition-based stats. Identities = 620/685 (90%), Positives = 661/685 (96%), Gaps = 0/685 (0%)

ruenc.	rcies .	= 020/003 (908), POSICIVES = 001/003 (908), Gaps = 0/003 (08)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	60
Sbjct	423	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	482
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+IQMYTNVDQDLVGW AP G+RSLTPCTCGSSD YLVTRHADVIPVRRRG	120
Sbjct	483	SKTLAGPKGPIIQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDPYLVTRHADVIPVRRRG	542
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSP+PISYLKGSSGGPLLCP+GHAVGIFRAAVCTRG+AKAVDF+P E +ETTMR	180
Sbjct	543	DGRGSLLSPKPISYLKGSSGGPLLCPSGHAVGIFRAAVCTRGIAKAVDFVPAECMETTMR	602
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTD+SSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	603	SPVFTDHSSPPTVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	662
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDII+CDECHSTD+T++	300
Sbjct	663	YMSKAHGVDPNIRTGMRTITTGAPITYSTYGKFLADGGCSGGAYDIILCDECHSTDSTTV	722
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+EVIK	360
Sbjct	723	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEVIK	782
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAV YYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	783	GGRHLIFCHSKKKCDELAAKLSGLGLNAVVYYRGLDVSVIPTSGDVVVVATDALMTGYTG	842
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTI+T T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	843	DFDSVIDCNTCVTQTVDFSLDPTFTIDTTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	902
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	903	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	962
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAH LSQTK +G+N PYLVAYQATVCARAQAPPPSWDQMWKCL+RLKPTLHGPTPLLY	600
Sbjct	963	HIDAHLLSQTKDAGDNYPYLVAYQATVCARAQAPPPSWDQMWKCLMRLKPTLHGPTPLLY	1022
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TKYI+TCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1023	RLGAVQNEVTLTHPITKYIITCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1082
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPA+IPDREVLY+ FDEMEEC	
Sbjct	1083	ILSGKPAVIPDREVLYQAFDEMEEC 1107	

<sup>&</sup>gt; \( \frac{\text{gi|2943784|dbj|BAA25076.1}}{\text{polyprotein [Hepatitis C virus]}} \)

Length=3010

```
Score = 1207 \text{ bits } (3123),
                            Expect = 0.0, Method: Composition-based stats.
 Identities = 619/685 (90%), Positives = 658/685 (96%), Gaps = 0/685 (0%)
Query
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
             APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NG CWTV+HGAG
Sbjct
       1027
            APITAYSQTRGLLGCIITSLTGRDKNQVEGEVQVVSTAKOSFLATCVNGACWTVFHGAG
                                                                            1086
Query
       61
             TRTIASPKGPVIOMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrra
                                                                            120
             ++T+A+ KGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
       1087
Sbjct
             SKTLAAAKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            1146
Query
       121
             dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
             DSRGSLLSPRPISYLKGSSGGPLLCP+GH VGIFRAAVCTRGVAKAVDFIPVE++ETTMR
Sbjct
       1147
             DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGIFRAAVCTRGVAKAVDFIPVESMETTMR
                                                                            1206
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
Query
             SPVFTDNS+PP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGY VLVLNPSVAATLGFGA
Sbjct
       1207
             SPVFTDNSTPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYMVLVLNPSVAATLGFGA
                                                                            1266
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
Query
             YMSKAHGIDPNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI
       1267
             YMSKAHGIDPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI
Sbjct
                                                                            1326
       301
             LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                             360
Query
             LGIGTVLDOAET GAR VVLATATPPGS+T PHPNIEEV L+ TGEIPFY K IP+EVI+
       1327
             LGIGTVLDOAETVGARFVVLATATPPGSITFPHPNIEEVPLANTGEIPFYAKTIPIEVIR
                                                                            1386
Sbjct
Query
       361
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                             420
             GGRHLIFCHSKKKCDEL AKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG
       1387
             GGRHLIFCHSKKKCDELPAKLSALGLNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG
Sbjct
                                                                            1446
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE
Query
       421
                                                                             480
             DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSRTQRRGRTGRG+ GIYRFV PGE
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRTQRRGRTGRGRRGIYRFVTPGE
                                                                            1506
Sbjct
       1447
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                             540
Query
             RPS MFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT
Sbjct
       1507
             RPSAMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCODHLEFWESVFTGLT
                                                                             1566
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                             600
Query
             HIDAHFLSQTKQ+G+N PYLVAYQATVCARA+APPPSWDQMWKCLIRLKPTLHGPTPLLY
             HIDAHFLSQTKQAGDNFPYLVAYQATVCARAKAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                             1626
Sbjct
       601
                                                                             660
Query
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV
             RLGAVQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+
Sbjct
       1627
             RLGAVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI
                                                                             1686
       661
             VLSGKPAIIPDREVLYREFDEMEEC
                                         685
Query
             +LSG+PA+IPDREVLY+EFDEMEEC
Sbjct
       1687
             ILSGRPAVIPDREVLYQEFDEMEEC
                                        1711
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<sup>&</sup>gt; gi|81960062|sp|Q913D4|POLG\_HCVIN Genome polyprotein [Contains: Core protein p21 (Care protein p19; Envelope glycoprotein E1 (gp32) (gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7; Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin) (NS3P) (p70); Nonstructural protein 4A (NS4A) (p8); Nonstructural protein 4B (NS4B) (p27); Nonstructural protein 5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)]

gi|15422183|gb|AAK95832.1| polyprotein [Hepatitis C virus (isolate India)] Length=3011

Score = 1207 bits (3123), Expect = 0.0, Method: Composition-based stats. Identities = 623/685 (90%), Positives = 651/685 (95%), Gaps = 0/685 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query APITAYAQQTRGLLGCI+TSLTGRDKNOVEGE+OIVSTA OTFLATCING CWTVYHGAG 1027 APITAYAQQTRGLLGCIVTSLTGRDKNQVEGEIQIVSTATQTFLATCINGACWTVYHGAG Sbjct 1086 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq Query 61 120 +RTIAS GPV++MYTNVDQDLVGWPAPQG+RSLTPCTCG+SDLYLVTRHADVIPVRRRG Sbjct 1087 SRTIASASGPVVRMYTNVDQDLVGWPAPQGARSLTPCTCGASDLYLVTRHADVIPVRRRG 1146 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 Query D+RGSLLSPRPISYLKGSSGGPLLCP GH GIFRAAVCTRGVAKAVDF+PVE+LETTMR Sbjct 1147 DNRGSLLSPRPISYLKGSSGGPLLCPMGHVAGIFRAAVCTRGVAKAVDFVPVESLETTMR 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 240 SPVFTDNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPTVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHGIDPN+RTGVRTITTGSPITYSTYGKFLADGGC GGAYDIIICDECHS DATSI 1267. YMSKAHGIDPNVRTGVRTITTGSPITYSTYGKFLADGGCPGGAYDIIICDECHSVDATSI 1326 Sbjct 360 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query LGIGTVLDQAETAG RL VLATATPPG VTVPH NIEEVALS GE PFYGKAIPL IK Sbjct 1327 LGIGTVLDQAETAGVRLTVLATATPPGLVTVPHSNIEEVALSADGEKPFYGKAIPLNYIK 1386 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG Query 361 420 GGRHLIFCHSKKKCDELAAKLV LG+NAVA+YRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLVGLGVNAVAFYRGLDVSVIPTTGDVVVVATDALMTGFTG 1446 480 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE Query DFDSVIDCNTCV QTVDFSLDP F+IET T+PQDAVSR+QRRGRTGRGK GIYR+V+PGE DFDSVIDCNTCVVQTVDFSLDPIFSIETSTVPQDAVSRSQRRGRTGRGKHGIYRYVSPGE 1506 Sbjct 1447 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 481 Query RPSGMFDS VLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCODHLEFWE VFTGLT RPSGMFDSVVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT Sbjct 1507 1566 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Query 541 HIDAHFLSQTKQSGEN PYLVAYQATVCARA+APPPSWDQMWKCLIRLKPTL G TPLLY HIDAHFLSQTKQSGENFPYLVAYQATVCARARAPPPSWDQMWKCLIRLKPTLTGATPLLY 1626 Sbjct 1567 Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV 660 RLG+VQNEITLTHP+T+YIM CMSADLEVVTSTWVLVGGVLAALAAYCLSTG VVIVGR+ 1627 RLGSVQNEITLTHPITQYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSTGSVVIVGRI 1686 Sbjct VLSGKPAIIPDREVLYREFDEMEEC 685 Query 661 +L GKPA+IPDREVLYREFDEMEEC ILGGKPAVIPDREVLYREFDEMEEC Sbjct 1687 1711

#### $> \Gamma gi|38492205|gb|AAR22408.1|$ polyprotein [Hepatitis C virus] Length=3011

Score = 1204 bits (3114), Expect = 0.0, Method: Composition-based stats. Identities = 616/685 (89%), Positives = 653/685 (95%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
		APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTVYHGAG	
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVYHGAG	1086
		,	
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq	120
~		++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWRAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
30)00	1007	3KILAGEKGETIQMIINVDQDLVGWKAFFGAKSLIPCICGSSDLILVIKNADVIPVKKKG	1140
0	101	11 PTOWN WOODON'S CONTROL OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF T	100
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
		DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
_		SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
00)00	1207	OLALIDUOLIMA GIL GAMILLIMI LODONO INALAMIQUINA DA DA DA DA DA DA DA DA DA DA DA DA DA	1200
0	241	VMCVAUCT DDNI DMCVDMIMMCCDIMVCMVCVDI A DCCCCCCA VDII I CDDCUCMDAMCI	200
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
		YMSKAHG +PNIRTGVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	
Sbjct	1267	YMSKAHGTEPNIRTGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
		LGIGTVLDQA+T GARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E IK	
Sbjct	1327	LGIGTVLDQAKTVGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIETIK	1386
22,00	202		1000
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Query	301		420
	1000	GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
		DFDSVIDCNTCVTQTVDFSLDPTFTIET T+P RGRTGRG+ G YRFV PGE	
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPPRRGIALAGRGRTGRGRGGTYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	401	RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	340
Q1	1 5 0 7	<del></del>	1500
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
		HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
2			
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
****	301	RLGAVQNE++LTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	500
Chia+	1627	-	1606
Sbjct	1627	RLGAVQNEVSLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
_			
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
		LSG+PA+IPDREVLY+EFDEMEEC	
Sbjct	1687	NLSGRPAVIPDREVLYQEFDEMEEC 1711	

#### $> \frac{\text{gi}|306287|\text{gb}|AAA45721.1|}{\text{Length}=3010}$ putative

Score = 1199 bits (3102), Expect = 0.0, Method: Composition-based stats. Identities = 619/685 (90%), Positives = 659/685 (96%), Gaps = 0/685 (0%)

Query Sbjct		APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	60 1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120

Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLL PRP+SYLKGSSGGPLLCP+GHAVGI AAVCTRGVA AV+FIPVE++ETTMR	180
Sbjct	1147	DGRGSLLPPRPVSYLKGSSGGPLLCPSGHAVGILPAAVCTRGVAMAVEFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDN SPP VPQ+FQVAHLHAPTGSGKST+VPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNPSPPAVPQTFQVAHLHAPTGSGKSTRVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPN+RTGVRTITTG+PITYSTYGKFLADGG SGGAYDII+CDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNLRTGVRTITTGAPITYSTYGKFLADGGGSGGAYDIIMCDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK GIGTVLDQAETAGARLVVL+TATPPGSVTVPH NIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	YGIGTVLDQAETAGARLVVLSTATPPGSVTVPHLNIEEVALSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEF EGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFSEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GEN PYLVAYQATVCARAQAPPPSWD+MW+CLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGENFPYLVAYQATVCARAQAPPPSWDEMWRCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYQEFDEMEEC 1711	

# $> \frac{\text{Gi}|50235322|\text{gb}|\text{AAT}69968.1|}{\text{Length}=3011}$ polyprotein [Hepatitis C virus]

Score = 1199 bits (3101), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 648/685 (94%), Gaps = 0/685 (0%)

Query Sbjct	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60 1086
Query Sbjct	61 1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVI MYTNVDQDL GW APQ SLTP +CGSSDLYLVTRHADVIPV RRG TRTIASSKGPVILMYTNVDQDLGGWTAPQVLGSLTPWSCGSSDLYLVTRHADVIPVPRRG	120 1146
Query Sbjct	121 1147	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR ++RGSLLSPRPISYLKGSSGGPLLCP GHAVGIFRAAVCTRGVAKAVDF+PVE+LETTMR ETRGSLLSPRPISYLKGSSGGPLLCPMGHAVGIFRAAVCTRGVAKAVDFVPVESLETTMR	180 1206

Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPLTVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGC GGAYDIIICDECHS DATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCPGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RL VLATATPPGSVTVPH NIEEVALS GEIPFYGKAIPL IK	360
Sbjct '	1327	LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHSNIEEVALSADGEIPFYGKAIPLNYIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLV G+NAVA+YRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVGPGVNAVAFYRGLDVSVIPTTGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCV QTVDFSLDP F+IET T+PQDAVSR+QRRGRTGRGK GIYR+V+PGE	480
Sbjct	1447	DFDSVIDCNTCVVQTVDFSLDPIFSIETSTVPQDAVSRSQRRGRTGRGKHGIYRYVSPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDS VLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCODHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSVVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARA+APPPSWDQMWKCLIRLKPTL G TPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARARAPPPSWDQMWKCLIRLKPTLTGATPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG+VQNEITLTHP+T+YIM CMSADLEVVTSTWVLVGGVLAALAAYCLSTG VVIVGR+	660
Sbjct	1627	RLGSVQNEITLTHPITQYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +L GKPA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILGGKPAVIPDREVLYREFDEMEEC 1711	

#### $> \boxed{\text{gi}|567060|\text{gb}|\text{AAA52748.1}|}$ polyprotein Length=3010

Score = 1198 bits (3100), Expect = 0.0, Method: Composition-based stats. Identities = 619/685 (90%), Positives = 659/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+OOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLL PRP+SYLKGSSGGPLLCP+GHAVGI AAVCTRGVA AV+FIPVE++ETTMR	180
Sbjct	1147	DGRGSLLPPRPVSYLKGSSGGPLLCPSGHAVGILPAAVCTRGVAMAVEFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDN SPP VPQ+FQVAHLHAPTGSGKST+VPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNPSPPAVPQTFQVAHLHAPTGSGKSTRVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPN+RTGVRTITTG+PITYSTYGKFLADGG SGGAYDII+CDECHSTD+T+I	300

Sbjct	1267	YMSKAHGIDPNLRTGVRTITTGAPITYSTYGKFLADGGGSGGAYDIIMCDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK GIGTVLDQAETAGARLVVL+TATPPGSVTVPH NIEEVALS TGEIPFYGKAIP+E IK	360
Sbjct	1327	YGIGTVLDQAETAGARLVVLSTATPPGSVTVPHLNIEEVALSNTGEIPFYGKAIPIEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRAGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEF EGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFSEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+GEN PYLVAYQATVCARAQAPPPSWD+MW+CLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGENFPYLVAYQATVCARAQAPPPSWDEMWRCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHP+TK+IMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTLTHPITKFIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSGKPAIIPDREVLY+EFDEMEEC	
Sbjct	1687	ILSGKPAIIPDREVLYQEFDEMEEC 1711	•

# $> \Gamma$ <u>gi|5748511|emb|CAB53095.1|</u> polyprotein [Hepatitis C virus type 1b] Length=3010

Score = 1197 bits (3098), Expect = 0.0, Method: Composition-based stats. Identities = 627/685 (91%), Positives = 663/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG A ITAY+OOTRGLLGCIITSLTGRD+NOVEGEVO+VSTA O+FLATC+NGVCWTVYHGAG	60
Sbjct	1027	AHITAYSQQTRGLLGCIITSLTGRDRNQVEGEVQMVSTATQSFLATCVNGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRT TTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTTTTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALS+TGE+PFYGKAIP+E IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSSTGEVPFYGKAIPIETIK	1386

Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL LG+NAVAYYRGLDVSVIP GDV+VVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSGLGLNAVAYYRGLDVSVIPTSGDVIVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTOTVDFSLDPTFTIET T+PODAVSR+ORRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRIGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCODHLEFWE VFTGLT	540.
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+T THP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEVTTTHP1TKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSGKPAIIPDREVLYREFDEMEEC	
Sbjct	1687	VLSGKPAIIPDREVLIREFDEMEEC 1711	

# $> \Gamma \underline{gi|437108|gb|AAA75355.1|}$ polyprotein Length=3010

Score = 1197 bits (3098), Expect = 0.0, Method: Composition-based stats. Identities = 621/685 (90%), Positives = 652/685 (95%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVO+VSTA O+FLATC+NGVCWTV+HGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW A G RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWQAAPGMRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRP+SYLKGSSGGPLL P+GHAVGIFRAAVCTRGVAKAVDF+PVE++ETTMR	180
Sbjct	1147	DGRGSLLSPRPVSYLKGSSGGPLLWPSGHAVGIFRAAVCTRGVAKAVDFVPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPO+FOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTG RTITTG+PITYSTYGKF ADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAHGTDPNIRTGARTITTGAPITYSTYGKFFADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360.
Sbjct	1327	LGIGTVLD+AETAGARLVVLATATPPGS TVPHPNIEEVAL TGEIPFYG+AIP+E IK LGIGTVLDRAETAGARLVVLATATPPGSTTVPHPNIEEVALPNTGEIPFYGRAIPIEFIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFC SKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCPSKKKCDELAAKLSALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSRTQRRGRTGRG+ GIYRFV PGE	480

Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRTQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWE VFTGL	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWESVFTGLN	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLI LKP LHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIWLKPVLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TK IM MSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGAVQNEITLTHPITKLIMASMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbjct	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

# $> \frac{\text{gi}|7650258|\text{gb}|\text{AAF65960.1}|}{\text{Length}=3010}$ polyprotein [Hepatitis C virus]

Score = 1195 bits (3092), Expect = 0.0, Method: Composition-based stats. Identities = 624/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCING CWTVYHGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGACWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ Q+YTNVDQDL+GW AP GSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQIYTNVDQDLLGWQAPPGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RGSLLSPRP+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DTRGSLLSPRPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG DPNIRTG RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T++	300
Sbjct	1267	YMSKAHGTDPNIRTGTRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTV	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPH NIEEVAL+ TGEIPFYGKAIP++VIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHSNIEEVALTNTGEIPFYGKAIPIDVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALG+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLSALGLNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDS IDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE	480
Sbjct	1447	DFDSXIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRGGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566

Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKO+G+N PYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG VQNE+TLTHP+TK+IM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660
Sbjct	1627	RLGPVQNEVTLTHPITKFIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA+IPDREVLYREFDEMEEC	
Sbict	1687	ILSGRPAVIPDREVLYREFDEMEEC 1711	

#### > Length=3010 polyprotein [Hepatitis C virus]

Score = 1193 bits (3086), Expect = 0.0, Method: Composition-based stats. Identities = 625/685 (91%), Positives = 662/685 (96%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATC+NGVCWTV+HGAG	60
Sbjct	1027	APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCVNGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLV+RHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVSRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRP+SYLKGSSGGPLLCP+GH GIFRAAVCTRGVAKAVDF+PVE++ETT R	180
Sbjct	1147	DSRGSLLSPRPVSYLKGSSGGPLLCPSGHVAGIFRAAVCTRGVAKAVDFVPVESMETTTR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQTFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DP+IRTG RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+TSI	300
Sbjct	1267	YMSKAHGVDPSIRTGTRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGEIPFYGKAIP+E I+	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEIPFYGKAIPIEAIR -	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GG HLIFCHSKKKCDELAA+L +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGGHLIFCHSKKKCDELAAQLSSLGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRGK GIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGKRGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAET+VRLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETSVRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+TLTHPVTKYIM CMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+	660

Sbjct 1627 RLGAVQNEVTLTHPVTKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686

Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685
+LSGKPAIIPDREVLYREFDEMEEC
Sbjct 1687 ILSGKPAIIPDREVLYREFDEMEEC 1711

#### $> \Gamma gi|7650262|gb|AAF65962.1|$ polyprotein [Hepatitis C virus] Length=3010

Score = 1193 bits (3086), Expect = 0.0, Method: Composition-based stats. Identities = 626/685 (91%), Positives = 665/685 (97%), Gaps = 0/685 (0%)

Ident	ities	= $620/685$ (91%), Positives = $665/685$ (9/%), Gaps = $0/685$ (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQ+VSTA Q+FLATCINGVCWTV+HGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQVVSTATQSFLATCINGVCWTVFHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGP+ QMYTNVDQDLVGW AP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	SKTLAGPKGPITQMYTNVDQDLVGWLAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCP+GH VG+FRAAVCTRGVAKAVDFIPVE++ETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPSGHVVGLFRAAVCTRGVAKAVDFIPVEHMETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ+FQVAHLHAPTGSGKST+VPAAYAAQGYKVLVLNPSVAATL FGA	240
Sbjct	1207	SPVFTDNSSPPAVPQAFQVAHLHAPTGSGKSTRVPAAYAAQGYKVLVLNPSVAATLSFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+G+DPNIRTG RTITTG+ ITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct Query	1267 301	YMSKAYGVDPNIRTGTRTITTGASITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1326 360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTIGETPFIGKATPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHP+IEEVALS TGEIPFYGKAIP+EVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPSIEEVALSNTGEIPFYGKAIPIEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKL +LG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLSSLGMNAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTI+T T+PQDAVSR+QRRGRTGRG+PGIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIDTTTVPQDAVSRSQRRGRTGRGRPGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYEL PAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELAPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQ+G+N PYLVAYQATVCARAQA PPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQAGDNFPYLVAYQATVCARAQALPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1627	RLGAVQNE+TLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+RLGAVQNEVTLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1687	+LSG+PA++PDREVLYREFDEMEEC ILSGRPAVVPDREVLYREFDEMEEC 1711	

#### $> \Gamma \underline{\text{gi}|1405417|\text{dbj}|BAA09919.1|}$ E1 and E2/NS1 envelope glycoprotein [Hepatitis C virus] Length=3010

Score = 1191 bits (3080), Expect = 0.0, Method: Composition-based stats.

Identities = 614/685 (89%), Positives = 653/685 (95%), Gaps = 0/685 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query APITAY+QQTRGLLGCIITSLTGRDKNQVEGEVQ VSTA Q+FLATC+NGVCWTV+HGAG 1027 Sbjct APITAYSQQTRGLLGCIITSLTGRDKNQVEGEVQEVSTATQSFLATCVNGVCWTVFHGAG 1086 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq 120 ++ + PKGP+ QMYT+VDQDLVGW G+RSLTP TCGSS LYLVTR+ADVIPVRR G Sbjct 1087 SKILVGPKGPITQMYTSVDQDLVGWWERPGARSLTPGTCGSSVLYLVTRNADVIPVRRGG 1146 Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D RGSLLSP+P+SYLKGSSGGPLLCP+GHAVGIFRAAVCTRGVAKAVDFIPVE++ETTMR Sbjct 1147 DGRGSLLSPKPVSYLKGSSGGPLLCPSGHAVGIFRAAVCTRGVAKAVDFIPVESMETTMR 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 240 S VFTDNSSPP VPQ+FQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SLVFTDNSSPPAVPQAFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Query 300 YMSKAHG DPNIRTG+RTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I 1267 Sbjct YMSKAHGTDPNIRTGIRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI 1326 301 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALS TGE+PFYGKAIPLE IK 1327 Sbjct LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSNTGEVPFYGKAIPLEAIK 1386 Query 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL LGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG 1387 GGRHLIFCHSKKKCDELAAKLSTLGINAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG Sbjct 1446 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRRGIYRFVTPGE Sbjct 1447 1506 481 Query RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RP GMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPG VCQD+LEFWE VFTGLT Sbjct RPLGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGFAVCQDYLEFWEDVFTGLT 1566 600 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query HI++HFLSQTKQ+G+N PYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY Sbjct 1567 HIESHFLSQTKQAGDNFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV Query 660 RLGAVQNEITLTHP+TKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCL+TG VVIVGR+ Sbjct 1627 RLGAVQNEITLTHPITKYIMTCMSADLEVVTSTWVLVGGVLAALAAYCLTTGSVVIVGRI 1686 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PA++PDREVLYREFDEMEEC Sbjct 1687 ILSGRPAVVPDREVLYREFDEMEEC 1711

#### $> \Gamma \underline{gi|67810846|gb|AAY82011.1|}$ polyprotein [Hepatitis C virus] Length=1644

Score = 1174 bits (3037), Expect = 0.0, Method: Composition-based stats. Identities = 606/618 (98%), Positives = 611/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI . YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	. GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618	
Sbjct	1627	RLGAVQNE+TLTHP+TKY RLGAVQNEVTLTHPITKY 1644	
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#### $> \Gamma gi|67810857|gb|AAY82016.1|$ polyprotein [Hepatitis C virus] Length=1646

Score = 1172 bits (3033), Expect = 0.0, Method: Composition-based stats. Identities = 607/618 (98%), Positives = 611/618 (98%), Gaps = 0/618 (0%)

Query Sbjct	1 1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60 1088
Query Sbjct	61 1089	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWP PQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TRTIASPKGPVIQMYTNVDQDLVGWPTPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120 1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180

Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1269	YMSKAHGIDPNIRTGVRTITTGSPITTSTTGKFLADGGCSGGAYDIIICDECHSTDATSI	1328
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAE+AGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAETAGARDVVLATATPPGSVTVPHPNIEEVALSTIGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1568
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1569	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1628
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHPVTKY	
Sbjct	1629	RLGAVQNEVTLTHPVTKY 1646	

# $> \Gamma gi|67810849|gb|AAY82012.1|$ polyprotein [Hepatitis C virus] Length=1644

Score = 1172 bits (3032), Expect = 0.0, Method: Composition-based stats. Identities = 605/618 (97%), Positives = 612/618 (99%), Gaps = 0/618 (0%)

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Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNQVEGEVOIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIOMYTNVDODLVGWPAPOG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMS+AHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSRAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLAALGINAVAYYRGLDVSVIPTSGDVVVVATDALMIG+IG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPO+AVSRTORRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFT1ETTTLPQEAVSRTQRRGRTGRGKPG1YRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	. 1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHPVTKY	
Sbjct	1627	RLGAVQNEVTLTHPVTKY 1644	

# > gi|67810875|gb|AAY82024.1| polyprotein [Hepatitis C virus] gi|67810873|gb|AAY82023.1| polyprotein [Hepatitis C virus] Length=1646

Score = 1171 bits (3030), Expect = 0.0, Method: Composition-based stats. Identities = 607/618 (98%), Positives = 611/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1089	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1148
Query	121	dsrgsllsprPiSYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPOSFOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPN+RTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1269	YMSKAHGIDPNLRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1328
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTIGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1448

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYE TPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYEPTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1568
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1569	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1628
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVONE+TLTHPVTKY	
Sbjct	1629	RLGAVQNEVTLTHPVTKY 1646	

# $> \frac{\text{Gi} | 67810866 | \text{gb} | \text{AAY82020.1}|}{\text{Length=} 1646}$ polyprotein [Hepatitis C virus]

Score = 1171 bits (3029), Expect = 0.0, Method: Composition-based stats. Identities = 607/618 (98%), Positives = 611/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1089	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDEC STDATSI	300
Sbjct	1269	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECRSTDATSI	1328
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAE+AGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAESAGARLVVLATATPPGSVTVPHPNIEEVALSTIGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1568
Query .	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

#### > <u>gi|67810879|gb|AAY82026.1|</u> polyprotein [Hepatitis C virus] Length=1644

Score = 1170 bits (3027), Expect = 0.0, Method: Composition-based stats. Identities = 606/618 (98%), Positives = 611/618 (98%), Gaps = 0/618 (0%)

idenc.	rcres .	- 000/010 (90%), POSICIVES $-$ 011/010 (90%), Gaps $=$ 0/018 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEE ALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEAALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVA+GINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVAMGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHP+TKY	
Sbjct	1627	RLGAVQNEVTLTHPITKY 1644	

### $> \frac{\text{gi}|67810877|\text{gb}|\text{AAY82025.1}|}{\text{Length=}1644}$ polyprotein [Hepatitis C virus]

Score Identi	= 1170 ities =	<pre>bits (3027), Expect = 0.0, Method: Composition-based stats. = 606/618 (98%), Positives = 611/618 (98%), Gaps = 0/618 (0%)</pre>	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIIT LTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITGLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241 1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300 1326
Sbjct Query	301	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVA+GINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVAMGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHP+TKY	
Sbjct	1627	RLGAVQNEVTLTHPITKY 1644	

# $> \frac{\text{Gi} | 67810842 | \text{gb} | \text{AAY82009.1}|}{\text{Length=} 1644}$ polyprotein [Hepatitis C virus]

Score = 1170 bits (3027), Expect = 0.0, Method: Composition-based stats. Identities = 605/618 (97%), Positives = 610/618 (98%), Gaps = 0/618 (0%)

~ - 1	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60 1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGS DLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSPDLYLVTRHADVIPVRRRG	1146

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDII+CDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIVCDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421 .	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVONE+TLTHP+TKY	
Sbjct	1627	RLGAVQNEVTLTHPITKY 1644	

# $> \frac{\text{Gi} | 67810859 | \text{gb} | \text{AAY82017.1}|}{\text{Length=} 1646}$ polyprotein [Hepatitis C virus]

Score = 1170 bits (3026), Expect = 0.0, Method: Composition-based stats. Identities = 606/618 (98%), Positives = 610/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVOIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWP PQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1089	TRTIASPKGPVIQMYTNVDQDLVGWPTPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPOS OVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQSLQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300

Sbjct	1269	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1328
•			
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAE+AGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAESAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1568
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1569	HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1628
Query	601	RLGAVQNEITLTHPVTKY 618	
Sbjct	1629	RLGAVQNEVTLTHPVTKY 1646	

# $> \Gamma gi|67810855|gb|AAY82015.1|$ polyprotein [Hepatitis C virus] Length=1644

Score = 1169 bits (3023), Expect = 0.0, Method: Composition-based stats. Identities = 604/618 (97%), Positives = 610/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMS+AHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSRAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLAALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHPVTKY	

# $> \frac{\text{Gil}67810853|\text{gb}|\text{AAY82014.1}|}{\text{Length}=1644}$ polyprotein [Hepatitis C virus]

Score = 1169 bits (3023), Expect = 0.0, Method: Composition-based stats. Identities = 604/618 (97%), Positives = 610/618 (98%), Gaps = 0/618 (0%)

Identi	ties =	= 604/618 (97%), Positives = 610/618 (98%), Gaps = 0/618 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPiSYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1147	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMS+AHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSRAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVİPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLAALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600

HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct 1567 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 1626

Query 601 RLGAVQNEITLTHPVTKY 618
RLGAVQNE+TLTHPVTKY
Sbjct 1627 RLGAVQNEVTLTHPVTKY 1644

### $> \frac{\text{gi}|67810868|\text{gb}|\text{AAY82021.1}|}{\text{Length}=1646}$ polyprotein [Hepatitis C virus]

Score = 1168 bits (3021), Expect = 0.0, Method: Composition-based stats. Identities = 606/618 (98%), Positives = 610/618 (98%), Gaps = 0/618 (0%)

		$\cdot$	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1089	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1269	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1328
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAE+AGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAESAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDAL TGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALTTGYTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFW GVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWVGVFTGLT	1568
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1569	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1628
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHPVTKY	
Sbjct	1629	RLGAVQNEVTLTHPVTKY 1646	

 $> \Gamma gi|67810883|gb|AAY82028.1|$  polyprotein [Hepatitis C virus] Length=1644

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Score = 1167 bits (3020), Expect = 0.0, Method: Composition-based stats.
 Identities = 605/618 (97%), Positives = 611/618 (98%), Gaps = 0/618 (0%)
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Query
                                                                            60
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
       1027
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            1086
Query
       61
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
                                                                            120
             TRTIASPKGPVIOMYTNVDODLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
       1087
Sbjct
             TRTIASPKGPVIQMYTNVDQDLVGWPAPPGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            1146
Query
       121
             dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
             DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR
Sbjct
       1147
             DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR
                                                                            1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
             SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
       1207
Sbjct
             SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            1266
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
Query
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Sbjct
       1267
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            1326
       301
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
Query
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK
       1327
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK
                                                                            1386
Sbjct
       361
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
Query
             GGRHLIFCHSKKKCDELAAKLVA+G+NAVAYYRGLDVSVIP GDVVVVATDALMTGYTG
       1387
             GGRHLIFCHSKKKCDELAAKLVAMGVNAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG
                                                                            1446
Sbjct
       421
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE
                                                                            480
Query
             DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE
Sbjct
       1447
             DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE
                                                                            1506
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            540
Query
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
Sbjct
       1507
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            1566
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                            600
Query
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQA PPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct
       1567
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQALPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                            1626
Query
       601
             RLGAVQNEITLTHPVTKY
                                 618
             RLGAVQNE+TLTHP+TKY
Sbjct
       1627
             RLGAVQNEVTLTHPITKY
                                1644
> [gi|28921568|ref|NP 803144.1] G NS3 protease/helicase' [Hepatitis C virus]
Length=631
                            Expect = 0.0, Method: Composition-based stats.
 Score = 1167 bits (3019),
 Identities = 618/631 (97%), Positives = 624/631 (98%), Gaps = 0/631 (0%)
Query
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                           60
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTA QTFLATCINGVCWTVYHGAG
Sbjct
       1
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTATQTFLATCINGVCWTVYHGAG
                                                                           60
Query
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG
```

RID=1153506756-5678-199370517911.BLASTQ4, Page 188 of 235				
Sbjct	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120	
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180	
Sbjct	121	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG+FRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGLFRAAVCTRGVAKAVDFIPVENLETTMR	180	
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240	
Sbjct	181	SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240	
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300	
Sbjct	241	YMSKAHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300	
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLEVIK	360	
Sbjct	301	LGIGTVLDQAETAGARLVVLATATPPGSVTV HPNIEEVALSTIGEIPFIGKAIPLEVIK	360	
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVV+TDALMTG+TG	420	
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVFTDALMTGFTG	420	
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480	
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDFTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480	
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540	
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540	
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKOSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600	
Sbjct	541	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600	
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNE+TLTHP+TKYIMTCMSADLEVVT		
Sbjct	601	RLGAVQNEVTLTHPITKYIMTCMSADLEVVT 631		
>		0881 gb AAY82027.1  polyprotein [Hepatitis C virus]		
Score Ident	e = 11 ities	67 bits (3019), Expect = 0.0, Method: Composition-based stats = $605/618$ (97%), Positives = $611/618$ (98%), Gaps = $0/618$ (0%)		
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNQVEGEVQIVSTAA+TFLATCINGVCWTVYHGAG		
Sbjct	1027	~~		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAP G+RSLTPCTCGSSDLYLVTRHADVIPVRRRG		
Sbjct	1087			
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR		
·Sbjct	1147			
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA		
Sbjct	1207			

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVA+GINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAAKLVAMGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQA PPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQALPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHP+TKY	
Sbjct	1627	RLGAVQNEVTLTHPITKY 1644	

### $> \boxed{gi|67810887|gb|AAY82030.1|}$ polyprotein [Hepatitis C virus] Length=1644

Score = 1167 bits (3018), Expect = 0.0, Method: Composition-based stats. Identities = 602/618 (97%), Positives = 607/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEV IVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVHIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVD+DLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDKDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSR SLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRSSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGS ITYSTYGKFLADGGCSGGAYDIIICDECHS DATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSSITYSTYGKFLADGGCSGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA+KLVALGINAVAYYRG+DVSVIP GDVVVVATDALMTGYTG	420

Sbjct	1387	GGRHLIFCHSKKKCDELASKLVALGINAVAYYRGIDVSVIPTSGDVVVVATDALMTGYTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTL GPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLQGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+ LTHP+TKY	
Sbjct	1627	RLGAVQNEVILTHPITKY 1644	

### $> \frac{\text{gi}|67810844|\text{gb}|\text{AAY82010.1}|}{\text{Length=}1644}$ polyprotein [Hepatitis C virus]

Score = 1166 bits (3016), Expect = 0.0, Method: Composition-based stats. Identities = 602/618 (97%), Positives = 607/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDII+CDECHSTDATSI	300
Sbjct	1267 301	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIVCDECHSTDATSI	1326
Query Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTV D E AGARLVVLATATPPGSVTV HPNIEEVALSTTGEIPFYGKAIPLE IK	360
Query	361	LGIGTVFDPPENAGARLVVLATATPPGSVTVSHPNIEEVALSTTGEIPFYGKAIPLEAIK GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	1386
Sbjct.	1387	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPFIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	420 1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1566
		2	

Query	541		.VAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY .VAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENLPYL	VAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY RLGAVQNE+TLTHP+TKY	618	
Sbict	1627	RLGAVONEVTLTHPITKY	1644	

# > C gi|67810870|gb|AAY82022.1| polyprotein [Hepatitis C virus] Length=1646

Score = 1165 bits (3013), Expect = 0.0, Method: Composition-based stats. Identities = 604/618 (97%), Positives = 608/618 (98%), Gaps = 0/618 (0%)

0	1	A DIERA VA COED CLI COLI ERGI ELCONOMICO DI COLI A CENTRA DI CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA NO CALCALITA	60
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1089	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1269	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1328
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAE+AGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAESAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET QDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIETTNASQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1568
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1569	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1628
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQN +TLTHPVTKY	
Sbjct	1629	RLGAVQNGVTLTHPVTKY 1646	

 $<sup>&</sup>gt; \Gamma gi|67810851|gb|AAY82013.1|$  polyprotein [Hepatitis C virus]

#### Length=1644

Score = 1165 bits (3013),Expect = 0.0, Method: Composition-based stats. Identities = 603/618 (97%), Positives = 609/618 (98%), Gaps = 0/618 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 1027 Sbjct APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAOTFLATCINGVCWTVYHGAG 1086 Query 61 TRTIASPKGPVIQMYTNVDODLVGWPAPOGSRSLTPCTCGSSDLYLVTRHADVIPVrrg 120 TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG 1087 Sbjct TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 1146 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR Sbjct 1147 DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR 1206  ${\tt SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA}$ Query 181 240 SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1207 SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1266 Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMS+AHG+DPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Sbjct 1267 YMSRAHGVDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 1326 301 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDOAETA ARLVVLATATPPGSVTVPHPNIEEVA STTGEIPFYGKAIPLEVIK LGIGTVLDQAETAWARLVVLATATPPGSVTVPHPNIEEVAPSTTGEIPFYGKAIPLEVIK Sbjct 1327 1386 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKL ALGINAVAYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 1387 GGRHLIFCHSKKKCDELAAKLAALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGFTG 1446 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE 421 Query 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE 1447 Sbjct DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE 1506 481 Query RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 1507 Sbjct RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 1566 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query 541 600 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPT LLY Sbjct 1567 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTLLLY 1626 601 Query RLGAVQNEITLTHPVTKY 618 RLGAVQNE+TLTHPVTKY Sbjct 1627 RLGAVQNEVTLTHPVTKY 1644

### $> \Gamma gi|67810896|gb|AAY82034.1|$ polyprotein [Hepatitis C virus] Length=1644

Score = 1164 bits (3010), Expect = 0.0, Method: Composition-based stats. Identities = 602/618 (97%), Positives = 608/618 (98%), Gaps = 0/618 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60
APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct 1027 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 1086

Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg 120-

Sbjct	1087	TRTIASPKGPVIQMYTNVD+DLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG TRTIASPKGPVIQMYTNVDKDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR  DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGS ITYSTYGKFLADGGCSGGAYDIIICDECHS DATSI YMSKAHGIDPNIRTGVRTITTGSSITYSTYGKFLADGGCSGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	1387	GGRHLIFCHSKKKCDELA+KLV LGINAVAYYRG+DVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELASKLVTLGINAVAYYRGIDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTL GPTPLLY HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLQGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618	
Sbjct	1627	RLGAVQNE+ LTHP+TKY RLGAVQNEVILTHPITKY 1644	

# $> \Gamma \underline{\text{gi|67810861|gb|AAY82018.1|}}$ polyprotein [Hepatitis C virus] Length=1646

Score = 1163 bits (3009), Expect = 0.0, Method: Composition-based stats. Identities = 604/618 (97%), Positives = 608/618 (98%), Gaps = 0/618 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQOTRGLLGCIITSLTGRDKNOVEGEVQIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWP PQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1089	TRTIASPKGPVIQMYTNVDQDLVGWPTPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPOSFOVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268

Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA GIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1269	YMSKARGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1328
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAE+AGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAESAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDS VLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSPVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1568
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1569	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	1628
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+T THPVTKY	
Sbjct	1629	RLGAVQNEVTPTHPVTKY 1646	

# $> \Gamma gi|67810894|gb|AAY82033.1|$ polyprotein [Hepatitis C virus] Length=1644

Score = 1162 bits (3007), Expect = 0.0, Method: Composition-based stats. Identities = 601/618 (97%), Positives = 608/618 (98%), Gaps = 0/618 (0%)

ruenc.	rcres -	- 001/010 (9/8), POSICIVES - 000/010 (90%), Gaps - 0/010 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVD+DLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDKDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGS ITYSTYGKFLADGGCSGGAYDIIICDECHS DATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSSITYSTYGKFLADGGCSGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420

		GGRHLIFCHSK+KCDELA+KLV LGINAVAYYRG+DVSVIP GDVVVVATDALMTG+TG	
Sbjct	1387	GGRHLIFCHSKRKCDELASKLVTLGINAVAYYRGIDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTL GPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLQGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVONE+ LTHP+TKY	
Sbjct	1627	RLGAVQNEVILTHPITKY 1644	

# $> \Gamma$ <u>gi|67810864|gb|AAY82019.1|</u> polyprotein [Hepatitis C virus] Length=1646

Score = 1162 bits (3007), Expect = 0.0, Method: Composition-based stats. Identities = 603/618 (97%), Positives = 608/618 (98%), Gaps = 0/618 (0%)

Ident	ities :	= 603/618 (97%), Positives = 608/618 (98%), Gaps = 0/618 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVOIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1029	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1088
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1089	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	1148
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLC AGHAVGIFRAAVCTRGVAKAVDFIPVE+LETTMR	180
Sbjct	1149	DSRGSLLSPRPISYLKGSSGGPLLCLAGHAVGIFRAAVCTRGVAKAVDFIPVESLETTMR	1208
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQ FQVAHLHAPTG+GKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1209	SPVFTDNSSPPAVPQCFQVAHLHAPTGNGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1268
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1269	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	1328
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAE+AGARLVVLATATPPGSVTVPH NIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	1329	LGIGTVLDQAESAGARLVVLATATPPGSVTVPHSNIEEVALSTTGEIPFYGKAIPLEAIK	1388
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFC SKKKCDELAAKLVALGINAVAYYRGLDVSVIP GDVVVVATDALMTGYTG	420
Sbjct	1389	GGRHLIFCRSKKKCDELAAKLVALGINAVAYYRGLDVSVIPTSGDVVVVATDALMTGYTG	1448
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1449	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1508
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1509	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1568

```
541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Query
                                                                              600
             HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
       1569
Sbjct
             HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                              1628
       601
Query
             RLGAVQNEITLTHPVTKY
                                  618
             RLGAVQNE+TLTHPVTKY
Sbjct
       1629
             RLGAVQNEVTLTHPVTKY
                                  1646
> qi | 68012750 | qb | AAY84771.1 |
                                nonstructural protein 3 [Hepatitis C virus]
Length=631
 Score = 1161 \text{ bits } (3004),
                             Expect = 0.0, Method: Composition-based stats.
 Identities = 614/631 (97%), Positives = 622/631 (98%), Gaps = 0/631 (0%)
            APITAYAQOTRGLLGCIITSLTGRDKNOVEGEVOIVSTAAOTFLATCINGVCWTVYHGAG
Query
                                                                             60
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
       1
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                             60
Query
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
                                                                             120
            T+TIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       61
            TKTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                             120
       121
            dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
                                                                             180
            DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR
Sbjct
       121
            {\tt DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR}
                                                                             180
            SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Query
       181
                                                                             240
            SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
       181
            SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
                                                                             240
Query
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                             300
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Sbjct
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                             300
            LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                             360
Query
```

LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK

LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK

GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG

GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG

GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG

DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE

DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRG+TGRGKPGIYRFV PGE

DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGKTGRGKPGIYRFVTPGE

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

631

RLGAVQNEITLTHPVTKYIMTCMSADLEVVT RLGAVQNEITLTHP+TKYIMTCMSADLEVVT

RLGAVQNEITLTHPITKYIMTCMSADLEVVT

Sbjct

Query

Sbjct

Query

Sbjct

Query

Sbict

Query

Sbjct

Query

Sbjct

301

361

361

421

421

481

481

541

541

601

601

360

420

420

480

480

540

540

600

600

```
> \( \frac{\text{gi} \left[ 68012736 \right] \text{gb} \left[ AAY84764.1 \right] \) nonstructural protein 3 [Hepatitis C virus]
 gi|68012730|gb|AAY84761.1| nonstructural protein 3 [Hepatitis C virus]
 gi|68012720|gb|AAY84756.1|
                             nonstructural protein 3 [Hepatitis C virus]
 gi | 68012702 | gb | AAY84747.1 |
                             nonstructural protein 3 [Hepatitis C virus]
Length=631
 Score = 1161 \text{ bits } (3004),
                             Expect = 0.0, Method: Composition-based stats.
 Identities = 615/631 (97%), Positives = 621/631 (98%), Gaps = 0/631 (0%)
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
       1
Query
                                                                             60
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                             60
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
Query
                                                                             120
            TRTIAS KGPVIQMYTNVDQDLVGWPAPOG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbict
       61
            TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                             120
       121
            dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
                                                                             180
            D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR
Sbjct
       121
            DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR
                                                                             180
Query
       181
            SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                             240
            SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
       181
            SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
                                                                             240
Query
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                             300
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Sbjct
                                                                             300
       301
            LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
Query
                                                                             360
            LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK
Sbjct
       301
            LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK
                                                                             360
Query
       361
            GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                              420
            GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG
Sbjct
       361
            GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG
                                                                             420
       421
            DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE
Query
                                                                              480
            DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE
Sbjct
       421
            DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE
                                                                              480
       481
Query
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                             540
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT
Sbjct
       481
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                             540
Query
       541
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                              600
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY
Sbjct
       541
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                             600
Query
            RLGAVQNEITLTHPVTKYIMTCMSADLEVVT
            RLGAVQNEITLTHP+TKYIMTCMSADLEVVT
Sbjct
       601
           RLGAVQNEITLTHPITKYIMTCMSADLEVVT
                                               631
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#### > \( \text{qi} | 67810898 \text{|gb|AAY82035.1|} \) polyprotein [Hepatitis C virus] Length=1644

Score = 1161 bits (3003), Expect = 0.0, Method: Composition-based stats. Identities = 601/618 (97%), Positives = 607/618 (98%), Gaps = 0/618 (0%)

APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query

Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIQMYTNVD+DLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDKDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA PVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	PPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGS ITYSTYGKFLADGGCSGGAYDIIICDECHS DATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSSITYSTYGKFLADGGCSGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA+KLV LGINAVAYYRG+DVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELASKLVTLGINAVAYYRGIDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTL GPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLQGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+ LTHP+TKY	
Sbjct	1627	RLGAVQNEVILTHPITKY 1644	

# $> \frac{\text{Gi} | 67810892 | \text{gb} | \text{AAY82032.1}|}{\text{Length=} 1644}$ polyprotein [Hepatitis C virus]

Score = 1161 bits (3003), Expect = 0.0, Method: Composition-based stats. Identities = 600/618 (97%), Positives = 607/618 (98%), Gaps = 0/618 (0%)

Query Sbjct	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60 1086
,			
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
01-4-4	1007	TRTIASPKGPVIQMYTNVD+DLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Sbjct	1087	TRTIASPKGPVIQMYTNVDKDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
		DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVG FRAAVCTRGVAKAVDFIPVENLETTMR	
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGTFRAAVCTRGVAKAVDFIPVENLETTMR	1206

Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGS ITYSTYGKFLADGGCSGGAYDIIICDECHS DATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSSITYSTYGKFLADGGCSGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSK+KCDELA+KLV LGINAVAYYRG+DVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKRKCDELASKLVTLGINAVAYYRGIDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTL GPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLQGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVQNE+ LTHP+TKY	
Sbjct	1627	RLGAVQNEVILTHPITKY 1644	

Score = 1161 bits (3003), Expect = 0.0, Method: Composition-based stats. Identities = 614/631 (97%), Positives = 621/631 (98%), Gaps = 0/631 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGE+QIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEIQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct .	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPODAVSRTORRGRTGRGKPGIYRFV PGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYOATVCARAOAPPPSWDOMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

>  $\Gamma$  gi|68012706|gb|AAY84749.1| nonstructural protein 3 [Hepatitis C virus] gi|68012704|gb|AAY84748.1| nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1160 bits (3001), Expect = 0.0, Method: Composition-based stats. Identities = 613/631 (97%), Positives = 621/631 (98%), Gaps = 0/631 (0%)

```
Query
       1
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGE+QIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
       1
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEIQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
Query
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
                                                                            120
            TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       61
            TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
                                                                            120
       121
Query
            dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
            D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR
            DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR
Sbjct
       121
                                                                            180
Query
       181
            SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
            SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       181
            SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
Query
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Sbjct
       241
                                                                            300
       301
Query
            LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
            LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK
Sbjct
       301
            LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK
                                                                            360
Query
       361
            GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
            GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG
       361
Sbjct
            GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG
                                                                            420
```

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

HIDAHFLSOTKOSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

600

Sbjct

Query

481

```
HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct
                                                                            600
Query
       601
            RLGAVQNEITLTHPVTKYIMTCMSADLEVVT
                                              631
            RLGAVQNEITLTHP+TKYIMTCMSADLEVVT
Sbjct
       601
            RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631
> <u>gi|68012732|gb|AAY84762.1|</u> nonstructural protein 3 [Hepatitis C virus]
Length=631
 Score = 1160 bits (3000), Expect = 0.0, Method: Composition-based stats.
 Identities = 614/631 (97%), Positives = 621/631 (98%), Gaps = 0/631 (0%)
Query
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
Query
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrg
                                                                            120
            T+TIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
            TKTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
       61
Sbjct
                                                                            120
       121
Query
            dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
            D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR
            DDRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR
Sbjct
       121
                                                                            180
       181
Query
            SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
            SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       181
            SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
Query
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Sbjct
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
Query
       301
            LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
            LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK
Sbjct
       301
            LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK
                                                                            360
       361
            GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
Query
                                                                            420
            GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG
Sbjct
       361
            GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG
                                                                            420
Query
       421
            DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE
                                                                            480
            DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE
Sbjct
       421
            DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE
                                                                            480
Query
       481
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            540
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
       481
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
Sbjct
                                                                            540
Query
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY
                                                                            600
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY
Sbjct
       541
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDOMWKCLIRLKPTLHGPTPLLY
                                                                            600
            RLGAVQNEITLTHPVTKYIMTCMSADLEVVT
Query
                                              631
            RLGAVQNEITLTHP+TKYIMTCMSADLEVVT
```

RLGAVQNEITLTHPITKYIMTCMSADLEVVT

Sbjct

601

 $<sup>&</sup>gt; \Gamma \underline{gi|68012726|gb|AAY84759.1|}$  nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1160 bits (3000), Expect = 0.0, Method: Composition-based stats. Identities = 613/631 (97%), Positives = 621/631 (98%), Gaps = 0/631 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGE+QIVSTAAQTFLATCINGVCWTVYHGAG Sbjct 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEIQIVSTAAQTFLATCINGVCWTVYHGAG 60 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrg 120 TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG 61 Sbjct TRTIASSKGPVIQMYTNVDQDLVGWPAPOGARSLTPCTCGSSDLYLVTRHADVIPVRRRG 120 Query 121 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR Sbjct 121 180 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 181 240 SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 181 SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Sbjct 300 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Query 360 LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK Sbjct 301 360 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 361 GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG 420 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtqrqKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE Sbjct 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE 480 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Query 540 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 481 Sbjct RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query 600 HIDAHFLSQTKQSGENLPY+VAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 Sbjct 541 HIDAHFLSQTKQSGENLPYMVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVT RLGAVQNEITLTHP+TKYIMTCMSADLEVVT Sbjct 601 RLGAVQNEITLTHPITKYIMTCMSADLEVVT

#### > gi|68012712|gb|AAY84752.1| nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1159 bits (2999), Expect = 0.0, Method: Composition-based stats. Identities = 614/631 (97%), Positives = 621/631 (98%), Gaps = 0/631 (0%)

Query Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGE+QIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEIQIVSTAAQTFLATCINGVCWTVYHGAG	60 60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	121	D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR DCRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	301	LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	
		·	
>	6801	2752 gb AAY84772.1  nonstructural protein 3 [Hepatitis C virus	5]
		2 gb AAY84767.1  nonstructural protein 3 [Hepatitis C virus]   8 gb AAY84765.1  nonstructural protein 3 [Hepatitis C virus]	
		8 gb AAY84760.1  nonstructural protein 3 [Hepatitis C virus]	
Length	=631		
		59 bits (2998), Expect = 0.0, Method: Composition-based stats = 615/631 (97%), Positives = 622/631 (98%), Gaps = 0/631 (0%)	•
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	61	T+TIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG TKTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	121	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
0	101	CDUETONCCDDUUDOCEOUAUI UA DECCOVOTIVIDA A VA A COVIZITUI NIBOUA A EXCA	240
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240

RID=1153	Page 205 of 235	
Sbjct 18	SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query 2		300
Sbjct 2	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query 30	<del>-</del>	360 .
Sbjct 30	LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query 3		420
Sbjct 30		420
Query 42		480
Sbjct 42	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query 48	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct 48		540
Query 54	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct 54		600
Query 60	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	
Sbjct 60		
>	12708 gb AAY84750.1  nonstructural protein 3 [Hepatitis C virus	3]
	l159 bits (2997), Expect = 0.0, Method: Composition-based stats es = $614/631$ (97%), Positives = $621/631$ (98%), Gaps = $0/631$ (0%)	
Query 1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct 1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query 63	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+TIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct 6	TKTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query 12	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct 12		180
Query 18	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	240
Sbjct 18	SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query 2	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct 24		300

301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK

301 LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK

Query

Sbjct

360

RID=1	RID=1153506756-5678-199370517911.BLASTQ4, Page 206 of 235				
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420		
Sbjct	361	GGRHLIFCHS KKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSNKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE 4 DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480		
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540		
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540		
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 .RLGAVQNEITLTHP+TKYIMTCMSADLEVVT			
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631			
Length Score	=631	2698 gb AAY84745.1  nonstructural protein 3 [Hepatitis C virus 59 bits (2997), Expect = 0.0, Method: Composition-based stats			
		= 614/631 (97%), Positives $= 620/631 (98%)$ , Gaps $= 0/631 (0%)$			
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60		
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTN DQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120		
Sbjct	61	TRTIASSKGPVIQMYTNGDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180		
Sbjct	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180		
Query Sbjct	181 181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240		
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300		
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300		
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360		
Sbjct	301	LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360		
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420		
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480		
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540		

Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541		600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVONEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

# $> \Gamma \underline{gi|68012714|gb|AAY84753.1|}$ nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1158 bits (2996), Expect = 0.0, Method: Composition-based stats. Identities = 613/631 (97%), Positives = 620/631 (98%), Gaps = 0/631 (0%)

		110, 111 (110, 111)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGE+QIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEIQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHA TGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYQVAHLHAATGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	٠
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

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> \( \text{gi} \) \( \text{68012746} \) \( \text{gb} \) \( \text{AAY84769.1} \) \( \text{nonstructural protein 3 [Hepatitis C virus]} \)
Length=631
 Score = 1158 bits (2995), Expect = 0.0, Method: Composition-based stats.
 Identities = 614/631 (97%), Positives = 622/631 (98%), Gaps = 0/631 (0%)
Query
       1
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                               60
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrg
       61
Query
             T+TIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
             TKTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       61
                                                                              120
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
       121
                                                                              180
             DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR
Sbjct
       121
            DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR
                                                                              180
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Query
                                                                              240
             SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Sbjct
       181
            SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                              240
Query
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                              300
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Sbjct
       241
            YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                              300
       301
Query
            LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
             LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK
Sbjct
       301
            LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK
                                                                              360
Query
       361
            GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG.
             GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP
                                                          GDVVVVATDALMTG+TG
Sbjct
       361
            GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG
                                                                              420
       421
            DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE
Query
                                                                              480
             DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE
Sbjct
            DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE
       421
                                                                              480
Query
       481
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT
                                                                              540
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVR+RAYMNTPGLPVCQDHLEFWEGVFTGLT
Sbjct
       481
            RPSGMFDSSVLCECYDAGCAWYELTPAETTVRVRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                              540
Query
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                              600
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Sbjct
       541
            HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                              600
Query
            RLGAVQNEITLTHPVTKYIMTCMSADLEVVT
                                               631
            RLGAVQNEITLTHP+TKYIMTCMSADLEVVT
Sbjct
       601
            RLGAVQNEITLTHPITKYIMTCMSADLEVVT
> \[ \text{qi} | 68012744 \] \[ \text{gb} | \text{AAY84768.1} \] \[ \text{nonstructural protein 3 [Hepatitis C virus]} \]
Length=631
 Score = 1158 bits (2995), Expect = 0.0, Method: Composition-based stats.
 Identities = 614/631 (97%), Positives = 621/631 (98%), Gaps = 0/631 (0%)
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Query
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
```

Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg T+TIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYL TRHADVIPVRRRG	120
Sbjct	61	TKTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLDTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct	121	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

### $> \frac{\text{Gi} | 67810890 | \text{gb} | \text{AAY82031.1}|}{\text{Length=}1644}$ polyprotein [Hepatitis C virus]

Score = 1157 bits (2994), Expect = 0.0, Method: Composition-based stats. Identities = 598/618 (96%), Positives = 607/618 (98%), Gaps = 0/618 (0%)

Ident	ities =	= 598/618 (96%), POSITIVES = 607/618 (98%), Gaps = 0/618 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVOIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIASPKGPVIOMYTNVD+DLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	1087	TRTIASPKGPVIQMYTNVDKDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1147	DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240

Sbjct	1207	SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGS ITYST GKFLADGGCSGGAYDIIICDECHS DATSI	300
Sbjct	1267	YMSKAHGIDPNIRTGVRTITTGSSITYSTCGKFLADGGCSGGAYDIIICDECHSVDATSI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK L IGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	1327	LDIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCD+LA+KLVA+GINAVAYYRG+DVSVIP GDVVVVATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDDLASKLVAMGINAVAYYRGIDVSVIPTSGDVVVVATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTOTVDFSLDPTFTIET TLPODAVSRT+RRGRTGRGKPGIYRFVAPGE	480
Sbjct	1447	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTRRRGRTGRGKPGIYRFVAPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTL GPTPLLY	600
Sbjct	1567	HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLQGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKY 618 RLGAVONE+ LTHP+TKY	
Sbjct	1627	RLGAVQNEVILTHPITKY 1644	

### $> \boxed{\text{gi}|89519419|\text{gb}|ABD75831.1|}$ polyprotein [Hepatitis C virus] Length=3008

Score = 1157 bits (2994), Expect = 0.0, Method: Composition-based stats. Identities = 598/685 (87%), Positives = 641/685 (93%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGL IITSLTGRD N+ GEVO++STA O+FL T INGV WTVYHGAG	60
Sbjct	1027	APITAYAQQTRGLFSTIITSLTGRDTNENCGEVQVLSTATQSFLGTAINGVMWTVYHGAG	1086
Query	61 .	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++TI+ PKGPV OMYTNVDODLVGWPAP G +SLTPCTCG+SDLYLVTRHADV+PVRRRG	120
Sbjct	1087	SKTISGPKGPVNQMYTNVDQDLVGWPAPPGVKSLTPCTCGASDLYLVTRHADVVPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RG+LLS RPIS LKGSSGGPLLCP GHA G+FRAAVCTRGVAKAVDF+PVE+LETTMR	180
Sbjct	1147	DTRGALLSARPISTLKGSSGGPLLCPMGHAAGLFRAAVCTRGVAKAVDFVPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPO++OVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSTPPAVPQAYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+GIDPNIR+GVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAG RLVVLATATPPGSVT PH NIEEVAL TTGE+PFYGKAIPLE+IK	360
Sbjct	1327	LGIGTVLDQAETAGVRLVVLATATPPGSVTTPHSNIEEVALPTTGEVPFYGKAIPLELIK	1386

Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAKQLTSLGLNAVAYYRGLDVSVIPTSGDVVVCATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE	480
Sbjct	1447	DFDSVIDCNTSVIQTVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGRLGIYRYVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG+FD+SV+CECYDAGCAWYELTPAETT RLRAY NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGIFDTSVICECYDAGCAWYELTPAETTTRLRAYFNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY ID HFLSQTKQSGEN PYLVAYQATVCARA APPPSWD MWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	QIDGHFLSQTKQSGENFPYLVAYQATVCARALAPPPSWDTMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRVRLG+VQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLS G VVIVGRV	660
Sbjct	1627	RLGSVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSVGSVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PAIIPDREVLY++FDEMEEC	
Sbjct	1687	VLSGQPAIIPDREVLYQQFDEMEEC 1711	

# $> \Gamma gi|68012724|gb|AAY84758.1|$ nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1157 bits (2992), Expect = 0.0, Method: Composition-based stats. Identities = 613/631 (97%), Positives = 619/631 (98%), Gaps = 0/631 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVOIVSTAAOTFLATCINGVCWTVYHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIOMYTNVDODLVGWPAPOG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHA TGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYQVAHLHAATGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARL VLAT TPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIGTVLDQAETAGARLTVLATDTPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE	480

Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQ DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQ		480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRL RPSGMFDSSVLCECYDAGCAWYELTPAETTVRL		540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRL	RAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQA HIDAHFLSQTKQSGENLPYLVAYQATVCARAQA		600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQA	PPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	631	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT	631	

# $> \Gamma gi|68012710|gb|AAY84751.1|$ nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1157 bits (2992), Expect = 0.0, Method: Composition-based stats. Identities = 614/631 (97%), Positives = 620/631 (98%), Gaps = 0/631 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	61	TRTÍASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTÍAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	1,21	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+ VAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYPVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMIG+IG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGITRFV PGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
		·	

Query 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT 631 Sbjct 601 RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631

### $> \Gamma gi|68012722|gb|AAY84757.1|$ nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1156 bits (2991), Expect = 0.0, Method: Composition-based stats. Identities = 613/631 (97%), Positives = 620/631 (98%), Gaps = 0/631 (0%)

		(300), Supplied (300), Supplied (300)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGE+QIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEIQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGA L VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIGTVLDQAETAGAILTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

### $> \frac{\text{Gi} | 68012740 | \text{gb} | \text{AAY84766.1}|}{\text{Length=631}}$ nonstructural protein 3 [Hepatitis C virus]

Score = 1155 bits (2989), Expect = 0.0, Method: Composition-based stats.

Identities = 614/631 (97%), Positives = 620/631 (98%), Gaps = 0/631 (0%) APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query 1 60 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Sbjct 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrr 61 Query 120 TRTIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYL TRHADVIPVRRRG 61 Sbjct TRTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLDTRHADVIPVRRRG 120 Query 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR 121 Sbjct DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR 180 181 Query SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 181 SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI Sbjct 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTT EIPFYGKAIPLE IK LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTVEIPFYGKAIPLEAIK Sbjct 301 360 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG Query 420 GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG Sbjct 361 GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG 420 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE 480 DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE Sbjct 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE 480 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT Query 540 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Sbjct 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Query 600 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY Sbjct 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 601 RLGAVQNEITLTHPVTKYIMTCMSADLEVVT Query 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT 601 Sbjct RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631

### $> \frac{\text{Gi} |89519405|\text{gb}|\text{ABD75824.1}|}{\text{Length}=3009}$ polyprotein [Hepatitis C virus]

Score = 1155 bits (2987), Expect = 0.0, Method: Composition-based stats. Identities = 598/685 (87%), Positives = 642/685 (93%), Gaps = 0/685 (0%)

Query Sbjct		APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL IITSLTGRD N+ GEVQ++STA Q+FL T +NGV WTVYHGAG APITAYAQQTRGLFSTIITSLTGRDTNENCGEVQVLSTATQSFLGTAVNGVMWTVYHGAG	60 1087
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	1088	++TI+ PKGPV QMYTNVDQDLVGWPAP G +SLTPCTCG+SDLYLVTRHADV+PVRRRG SKTISGPKGPVNQMYTNVDQDLVGWPAPPGVKSLTPCTCGASDLYLVTRHADVVPVRRRG	1147

			U
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RG+LLSPRPIS LKGSSGGPLLCP GHA G+FRAAVCTRGVAKAVDF+PVE+LETTMR	180
Sbjct	1148	DTRGALLSPRPISTLKGSSGGPLLCPMGHAAGLFRAAVCTRGVAKAVDFVPVESLETTMR	1207
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPQ++QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1208	SPVFTDNSTPPAVPQTYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1267
·Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	1268	YMSKA+GIDPNIR+GVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I YMSKAYGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1327
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RLVVLATATPPGSVT PH NIEEVAL TTGE+PFYGKAIPLE+IK	360
Sbjct	1328	LGIGTVLDQAETAGVRLVVLATATPPGSVTTPHSNIEEVALPTTGEVPFYGKAIPLELIK	1387
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG	420
Sbjct	1388	GGRHLIFCHSKKKCDELA +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG GGRHLIFCHSKKKCDELAKQLTSLGLNAVAYYRGLDVSVIPTSGDVVVCATDALMTGFTG	1447
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE	480
Sbjct	1448	DFDSVIDENT V QTVDFSLDPTF+TET T+PQDAVSR+QRRGRTGRG+ GTYR+V PGE DFDSVIDENTSVIQTVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGRLGIYRYVTPGE	1507
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG+FD+SV+CECYDAGCAWYELTPAETT RLRAY NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1508	RPSGIFDTSVICECYDAGCAWYELTPAETTTRLRAYFNTPGLPVCQDHLEFWESVFTGLT	1567
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY ID HFLSQTKQSGEN PYLVAYQATVCARA APPPSWD MWKCLIRLKPTLHGPTPLLY	600
Sbjct	1568	QIDGHFLSQTKQSGENFPYLVAYQATVCARALAPPPSWDTMWKCLIRLKPTLHGPTPLLY	1627
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG+VQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLS G VVIVGRV	660
Sbjct	1628	RLGSVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLS G VVIVGRV	1687
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685	
Sbjct	1688	VLSG+PAIIPDREVLY++FDEMEEC VLSGQPAIIPDREVLYQQFDEMEEC 1712	

# $> \Gamma gi|89519409|gb|ABD75826.1|$ polyprotein [Hepatitis C virus] Length=3008

Score = 1154 bits (2984), Expect = 0.0, Method: Composition-based stats. Identities = 599/685 (87%), Positives = 643/685 (93%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG AP+TAYAQQTRGL+ IITSLTGRD N+ GEVQ++STA Q+FL T INGV WTVYHGAG	60
Sbjct	1027	APVTAYAQQTRGLVNTIITSLTGRDTNENCGEVQVLSTATQSFLGTAINGVMWTVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++TI+ PKGPV QMYTNVDQDLVGWPAP G +SLTPCTCG+SDLYLVTRHADV+PVRRRG	120
Sbjct	1087	SKTISGPKGPVNQMYTNVDQDLVGWPAPPGVKSLTPCTCGASDLYLVTRHADVVPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RG+LLSPRPIS LKGSSGGPLLCP GHA G+FRAAVCTRGVAKAVDFIPVE+L TTMR	180
Sbjct	1147	DTRGALLSPRPISTLKGSSGGPLLCPMGHAAGLFRAAVCTRGVAKAVDFIPVESLATTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPO++OVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240

Sbjct	1207	SPVFTDNSTPPAVPQAYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+GIDPNIR+GVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query .	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RLVVLATATPPGSVT PH NIEEVAL TTGEIPFYGKAIPLE+IK	360
Sbjct	1327	LGIGTVLDQAETAGVRLVVLATATPPGSVTTPHSNIEEVALPTTGEIPFYGKAIPLELIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDE+A +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDEVANQLKSLGLNAVAYYRGLDVSVIPTSGDVVVCATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE	480
Sbjct	1447	DFDSVIDCNTSVIQTVDFSLDPTFSIETTTIPQDAVSRSQRRGRTGRGRLGIYRYVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG+FD+SV+CECYDAGCAWYELTPAETT RLRAY NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1507	RPSGIFDTSVICECYDAGCAWYELTPAETTTRLRAYFNTPGLPVCQDHLEFWEGVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY ID HFLSQTKQSGEN PYLVAYQATVCARA APPPSWD MWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	QIDGHFLSQTKQSGENFPYLVAYQATVCARALAPPPSWDTMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG+VQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLS G VVIVGRV	660
Sbjct	1627	RLGSVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSVGSVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PAIIPDREVLY++FDEMEEC	
Sbjct	1687	VLSGQPAIIPDREVLYQQFDEMEEC 1711	

# $> \Gamma \underline{\text{gi}|68012694|gb|AAY84743.1|}$ nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1153 bits (2983), Expect = 0.0, Method: Composition-based stats. Identities = 612/631 (96%), Positives = 618/631 (97%), Gaps = 0/631 (0%)

		$oldsymbol{\cdot}$	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG	60
Query	6.1	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTN DQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNGDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LEITMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240 -
Sbjct	181	SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIR GVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRPGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300

Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDOAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTOTVDFSLDPTFTIET TLPODAVSRTORRGRTGRGKPGIYRFV PGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLK TLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKTTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVQNEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601.	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

## $> \Gamma gi|68012696|gb|AAY84744.1|$ nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1153 bits (2982), Expect = 0.0, Method: Composition-based stats. Identities = 612/631 (96%), Positives = 618/631 (97%), Gaps = 0/631 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAOOTRGLLGCIITSLTGRDKNOVEGEVOIVSTAAOTFLATCINGVCWT YHGAG	60
Sbjct	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTGYHGAG	60
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg TRTIAS KGPVIQMYTN DQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Sbjct	61	TRTIASSKGPVIQMYTNGDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG	120
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D RGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVE LETTMR	180
Sbjct	121	DGRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR	180
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPOS+OVAHLHAPTGSGKSTKVPAAYAAOGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPNIRTGVRTITTGSPITTSTTGKFLADGGCSGGATDITTCDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK	360
Sbjct	301	LGIGTVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK LGIGTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480

Query

60

480

1506

540

1566

600

1626

Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSOTKOSGENLPYLVAYOATVCARAOAPPPSWDOMWKCLIRLK TLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKTTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVT 631 RLGAVONEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

Score = 1152 bits (2981), Expect = 0.0, Method: Composition-based stats. Identities = 599/618 (96%), Positives = 605/618 (97%), Gaps = 0/618 (0%)

APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG

## $> \Gamma \underline{gi|67810885|gb|AAY82029.1|}$ polyprotein [Hepatitis C virus] Length=1644

APITAYAQQTRGLLGCIITSLTGRDKNQ EGEVQIVSTAAQTFLATCINGVCWTVY GAG 1027 Sbjct APITAYAQQTRGLLGCIITSLTGRDKNQAEGEVQIVSTAAQTFLATCINGVCWTVYRGAG 1086 Query TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq 120 TRTIASPKGPVIQMYT+VD+DLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG 1087 TRTIASPKGPVIQMYTDVDKDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVRRRG Sbjct 1146 121 dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 Query DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 1147 Sbjct DSRGSLLSPRPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 1206 181 SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Query 240 SPVFTDNSSPP VPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFG Sbjct 1207 SPVFTDNSSPPAVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGT 1266 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query YMSKAHGIDPNIRTGVRTITTGS ITYSTYGKFLADGGCSGGAYDIIICDECHS DATSI Sbjct 1267 YMSKAHGIDPNIRTGVRTITTGSSITYSTYGKFLADGGCSGGAYDIIICDECHSVDATSI 1326 301 Query LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK Sbjct 1327 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 1386 361 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 Query GGRHLIFCHSKKKCDELA+KLVALGINAVAYYRG+DVSVIP GDVVVVATDALMTGYTG 1387 GGRHLIFCHSKKKCDELASKLVALGINAVAYYRGIDVSVIPTSGDVVVVATDALMTGYTG Sbjct 1446

DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE

DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGK GIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKLGIYRFVAPGE

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCODHLEFWEGVFTGLT

RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT

HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY

HIDAHFLSQTKQSGEN PYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTL GPTPLLY HIDAHFLSQTKQSGENFPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLQGPTPLLY

421

1447

481

1507

541

1567

Query

Sbjct

Query

Sbjct

Query

Sbjct

Query 601 RLGAVQNEITLTHPVTKY 618 RLGAVQNE+ LTHP+TKY

Sbjct 1627 RLGAVONEVILTHPITKY 1644

## $> \Gamma gi|89519413|gb|ABD75828.1|$ polyprotein [Hepatitis C virus] Length=3007

Score = 1151 bits (2977), Expect = 0.0, Method: Composition-based stats. Identities = 590/685 (86%), Positives = 644/685 (94%), Gaps = 0/685 (0%) Query APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60 APITAYAQQTRG+LG IITSLTGRD N+ GEVQ++STA Q+FL T INGV WTVYHGAG 1026 APITAYAQQTRGMLGTIITSLTGRDTNENCGEVQVLSTATQSFLGTAINGVMWTVYHGAG Sbjct 1085 Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq 120 ++TI+ PKGPV QMYTNVDQDLVGWPAP G +SLTPCTCGSSDL+LVTR+ADV+P+RRRG Sbjct 1086 SKTISGPKGPVNQMYTNVDQDLVGWPAPPGVKSLTPCTCGSSDLFLVTRNADVVPLRRRG 1145 121 Query dsrqsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 D+RG+L+SPRPIS LKGSSGGPLLCP GHA GIFRAAVCTRGVAKAVDF+PVE+LETTMR DTRGALISPRPISTLKGSSGGPLLCPLGHAAGIFRAAVCTRGVAKAVDFVPVESLETTMR Sbjct 1146 1205 Query SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 181 240 SPVFTDNS+PP VPQ++QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA Sbjct 1206 SPVFTDNSTPPAVPQTYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 1265 Query 241 YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 YMSKAHGIDPNIR+GVRTITTG+PITYSTYGKFLADGGC+GGAYDIIICDECHSTDAT++ 1266 Sbjct YMSKAHGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCAGGAYDIIICDECHSTDATTV 1325 Query 301 LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 LGIGTVLDQAETAGARLVVLATATPPGSVT PH NIEEVAL TTGEIPFYGKAIPL ++K 1326 Sbjct LGIGTVLDQAETAGARLVVLATATPPGSVTTPHSNIEEVALPTTGEIPFYGKAIPLSLVK 1385 361 Query GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 420 GGRHLIFCHSKKKCDELA +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG Sbjct 1386 GGRHLIFCHSKKKCDELAKQLSSLGLNAVAYYRGLDVSVIPLSGDVVVCATDALMTGFTG 1445 Query 421 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtgrrgrtgrqKPGIYRFVAPGE 480 DFD+VIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE Sbjct 1446 DFDTVIDCNTSVIQTVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGRLGIYRYVTPGE 1505 Query 481 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 540 RPSG+FD+SVLCECYD GCAWYELTPAETT+RLRAY NTPGLPVCODHLEFWE VFTGLT Sbjct 1506 RPSGIFDTSVLCECYDTGCAWYELTPAETTIRLRAYFNTPGLPVCODHLEFWESVFTGLT 1565 Query 541 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 600 HID HFLSQTKQ+G+N PYLVAYQATVCA+A APPPSWD MWKCL+RLKPTL GPTPLLY Sbjct 1566 HIDGHFLSQTKQAGDNFPYLVAYQATVCAKALAPPPSWDTMWKCLLRLKPTLRGPTPLLY 1625 601 Query RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV 660 RLG+VONE+TLTHP+TKYIM CMSADLEVVTSTWV+VGG+LAALAAYCLS G VVIVGRV Sbjct 1626 RLGSVQNEVTLTHPITKYIMACMSADLEVVTSTWVMVGGLLAALAAYCLSVGSVVIVGRV 1685 Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PA+IPDREVLY++FDEMEEC Sbjct 1686 VLSGQPAVIPDREVLYKQFDEMEEC 1710

<sup>&</sup>gt; \( \text{gi|89519407|gb|ABD75825.1} \) polyprotein [Hepatitis C virus]

Length=3008

```
Score = 1151 bits (2977), Expect = 0.0, Method: Composition-based stats.
 Identities = 595/685 (86%), Positives = 641/685 (93%), Gaps = 0/685 (0%)
Query
       1
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                             60
             APITAYAQQTRGL
                              IITSLTGRD N+
                                           GEVQ++STA Q+FL T +NGV WTVYHGAG
             APITAYAQQTRGLFSTIITSLTGRDTNENCGEVQVLSTATQSFLGTAVNGVMWTVYHGAG
Sbjct
       1027
                                                                            1086
       61
Query
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                            120
             ++TI+ PKGPV QMYTNVDQDLVGWPAP G +SLTPCTCG+SDLYL+TRHADV+PVRRRG
       1087
Sbjct
             SKTISGPKGPVNQMYTNVDQDLVGWPAPPGVKSLTPCTCGASDLYLITRHADVVPVRRRG
                                                                            1146
       121
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
                                                                            180
             D+RG+LLSPRP+S LKGSSGGPLLCP GHA G FRAAVCTRGVAKAVDF+PVE+LETTMR
Sbjct
       1147
             DTRGALLSPRPLSTLKGSSGGPLLCPMGHAAGXFRAAVCTRGVAKAVDFVPVESLETTMR
                                                                            1206
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
             SPVFTDNS+PP VPQ++QVAHLHAPTGSGKSTKVPAAYA+QGYKVLVLNPSVAATLGFGA
             SPVFTDNSTPPAVPQTYQVAHLHAPTGSGKSTKVPAAYASQGYKVLVLNPSVAATLGFGA
Sbjct
       1207
                                                                            1266
Query
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
             YMSKA+GIDPNIR+GVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I
             YMSKAYGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI
Sbjct
       1267
                                                                            1326
       301
Query
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
             LGIGTVLDOAETAG RLVVLATATPPGSVT PH NIEEVAL TTGE+PFYGKAIPLE+IK
Sbjct
       1327
             LGIGTVLDQAETAGVRLVVLATATPPGSVTTPHSNIEEVALPTTGEVPFYGKAIPLELIK
                                                                            1386
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
Query
       361
                                                                            420
             GGRHLIFCHSKKKCDELA +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG
Sbjct
       1387
             GGRHLIFCHSKKKCDELAKQLTSLGLNAVAYYRGLDVSVIPTSGDVVVCATDALMTGFTG
                                                                            1446
Query
       421
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE
                                                                            480
             DFDSVIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE
Sbjct
       1447
             DFDSVIDCNTSVIQTVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGRLGIYRYVTPGE
                                                                            1506
Query
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            540
             RPSG+FD+SV+CECYDAGCAWYELTPAETT RLRAY NTPGLPVCQDHLEFWE VFTGLT
Sbjct
       1507
             RPSGIFDTSVICECYDAGCAWYELTPAETTTRLRAYFNTPGLPVCODHLEFWESVFTGLT
                                                                            1566
Query
       541
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
                                                                            600
              ID HFLSQTKQSGEN PYLVAYQATVCARA APPPSWD MWKCLIRLKPTLHGPTPLLY
       1567
             QIDGHFLSQTKQSGENFPYLVAYQATVCARALAPPPSWDTMWKCLIRLKPTLHGPTPLLY
Sbjct
                                                                            1626
       601
Query
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvqqvlaalaaYCLSTGCVVIVGRV
                                                                            660
             RLG+VQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLS G VVIVGRV
             RLGSVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSVGSVVIVGRV
Sbjct
       1627
                                                                            1686
       661
Query
             VLSGKPAIIPDREVLYREFDEMEEC
             VLSG+PAIIPDREVLY++FDEMEEC
Sbjct
       1687
             VLSGQPAIIPDREVLYQQFDEMEEC
                                        1711
```

## > Tgi|89519415|gb|ABD75829.1| polyprotein [Hepatitis C virus] Length=3008

Score = 1150 bits (2974), Expect = 0.0, Method: Composition-based stats. Identities = 593/685 (86%), Positives = 641/685 (93%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAOTFLATCINGVCWTVYHGAG 60

		ADTERVACOURCE TIMOLECIP NO CRUCII COM O CRU	
Sbjct	1027	APITAYAQQTRGL I+TSLTG+D N+ GEVQ++STA Q+FL T +NGV W+VYHGAG APITAYAQQTRGLFSTIVTSLTGKDTNENCGEVQVLSTATQSFLGTAVNGVMWSVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++TI+ PKGPV QMYTNVDQDLVGWPAP G +SLTPCTCG+SDLYLVTRHADV+PVRRRG	120
Sbjct	1087	SKTISGPKGPVNQMYTNVDQDLVGWPAPPGVKSLTPCTCGASDLYLVTRHADVVPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RG+LLSPRPIS LKGSSGGPLLCP GHA G+FRAAVCTRGVAKAVDF+PVE+LETTMR	180
Sbjct	1147	DTRGALLSPRPISTLKGSSGGPLLCPMGHAAGLFRAAVCTRGVAKAVDFVPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPQ++QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSTPPAVPQTYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+GIDPNIR+GVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RL VLATATPPGSVT PH NIEE+AL TTGEIPFYG+AIPL++IK	360
Sbjct	1327	LGIGTVLDQAETAGVRLTVLATATPPGSVTTPHSNIEEIALPTTGEIPFYGRAIPLDLIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L ALG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAKQLTALGLNAVAYYRGLDVSVIPTSGDVVVCATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE	480
Sbjct	1447	DFDSVIDCNTSVIQTVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGF GIIR+V PGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG+FD+SVLCECYDAGCAWYELTPAETT RLRAY+NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGIFDTSVLCECYDAGCAWYELTPAETTTRLRAYLNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY ID HFLSQTKQSGEN PYLVAYQATVCARA APPPSWD MWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	QIDGHFLSQTKQSGENFPYLVAYQATVCARALAPPPSWDTMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG+VQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLS G VVI GRV	660 ·
Sbjct	1627	RLGSVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSVGSVVITGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PAIIPDREVLY++FDEMEEC	
Sbjct	1687	VLSGQPAIIPDREVLYQQFDEMEEC 1711	

# $> \boxed{gi|89519411|gb|ABD75827.1|}$ polyprotein [Hepatitis C virus] Length=2985

Score = 1150 bits (2974), Expect = 0.0, Method: Composition-based stats. Identities = 593/685 (86%), Positives = 641/685 (93%), Gaps = 0/685 (0%)

2	1 1027	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL IITSLTGRD N+ GEVQ++STA Q+FL +NGV WTVYHGAG APITAYAQQTRGLFSTIITSLTGRDTNENCGEVQVLSTATQSFLGVAVNGVMWTVYHGAG	60 1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg	120
Sbjct	1087	++TI+ PKGP+ QMYTNVDQDLVGWPAP G +SLTPCTCG+SDLYL+TRHADV+PVRRRG SKTISGPKGPINQMYTNVDQDLVGWPAPPGVKSLTPCTCGASDLYLITRHADVVPVRRRG	1146

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RG+LLSPRPIS LKGSSGGPLLCP GHA GIFRAAVCTRGVAKAVDF+PVE+LETTMR	180
Sbjct	1147	DTRGALLSPRPISTLKGSSGGPLLCPMGHAAGIFRAAVCTRGVAKAVDFVPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNS+PP VPQ++QVAHLHAPTGSGKSTKVPAAYA QGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFSDNSTPPAVPQTYQVAHLHAPTGSGKSTKVPAAYAGQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+GIDPNIR+GVRTITTG+PITYSTYGKFLADGGC GGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCGGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RLVVLATATPPGSVT PH NIEEVAL TTGEIPFYGKAIPL++IK	360
Sbjct	1327	LGIGTVLDQAETAGVRLVVLATATPPGSVTTPHSNIEEVALPTTGEIPFYGKAIPLDLIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAKQLSSLGLNAVAYYRGLDVSVIPTSGDVVVCATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE	480
Sbjct	1447	DFDSVIDCNTSVIQTVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGRLGIYRYVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG+FD+SVLCECYDAGCAWYELTP+ETT+RLRAY+NTPGLPVCQDHLEFWE VFTGL	540
Sbjct	1507	RPSGIFDTSVLCECYDAGCAWYELTPSETTIRLRAYLNTPGLPVCQDHLEFWESVFTGLK	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY ID HFLSQTKQSGENLPYLVAYQATVCARA APPPSWD MW+CLIRLKPTLHGPTPLLY	600
Sbjct	1567	QIDGHFLSQTKQSGENLPYLVAYQATVCARALAPPPSWDTMWRCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG+VQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLS G VVIVGRV	660
Sbjct	1627	RLGSVQNEVTLTHPITKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSVGSVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PAIIPDREVLYR+FDEMEEC	
Sbjct	1687	VLSGQPAIIPDREVLYRQFDEMEEC 1711	

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> T_gi|81924266|sp|091936|POLG HCVSA Genome polyprotein [Contains: Core protein p21 (Care protein p19; Envelope glycoprotein E1 (gp32) (gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7; Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin) (NS3P) (p70); Nonstructural protein 4A (NS4A) (p8); Nonstructural protein 4B (NS4B) (p27); Nonstructural protein 5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)] gi|3660726|gb|AAC61696.1| polyprotein [Hepatitis C virus (isolate SA13)] Length=3014
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Score = 1150 bits (2974), Expect = 0.0, Method: Composition-based stats. Identities = 585/685 (85%), Positives = 641/685 (93%), Gaps = 0/685 (0%)

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Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60
APITAYAQQTRG+LG II SLTGRDKN+ EGEVQ++STA QTFL TCINGV WTV+HGAG
Sbjct 1028 APITAYAQQTRGVLGAIIVSLTGRDKNEAEGEVQVLSTATQTFLGTCINGVMWTVFHGAG 1087

Query 61 TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg 120
+T+A PKGPV+QMYTNVD+DLVGWP P G+RSLTPCTCGS+DLYLVTRHADV+P RRRG
```

Sbjct	1088	AKTLAGPKGPVVQMYTNVDKDLVGWPTPPGTRSLTPCTCGSADLYLVTRHADVVPARRRG	1147
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+R SLLSPRPISYLKGSSGGP++CP+GH VG+FRAAVCTRGVAKA+DFIPVENLETTMR	180
Sbjct	1148	DTRASLLSPRPISYLKGSSGGPVMCPSGHVVGVFRAAVCTRGVAKALDFIPVENLETTMR	1207
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VP FQV HLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1208	SPVFTDNSTPPAVPHEFQVGHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1267
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMS+A+G+DPNIRTGVRT+TTG+ ITYSTYGKFLADGGCSGGAYD+IICDECHS DAT+I	300
Sbjct	1268	YMSRAYGVDPNIRTGVRTVTTGAAITYSTYGKFLADGGCSGGAYDVIICDECHSQDATTI	1327
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAGARLVVLATATPPGSVT PHPNIEEVAL + GEIPFYG+AIPL +IK	360
Sbjct	1328	LGIGTVLDQAETAGARLVVLATATPPGSVTTPHPNIEEVALPSEGEIPFYGRAIPLALIK	1387
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L + G+NAVAYYRGLDV+VIP GDVVV +TDALMTG+TG	420
Sbjct	1388	GGRHLIFCHSKKKCDELAKQLTSQGVNAVAYYRGLDVAVIPATGDVVVCSTDALMTGFTG	1447
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNT VTQTVDFSLDPTFTIET T+PQDAVSR+QRRGRTGRG+ GIYR+V+ GE	480
Sbjct	1448	DFDSVIDCNTTVTQTVDFSLDPTFTIETTTVPQDAVSRSQRRGRTGRGRHGIYRYVSSGE	1507
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG+FDS VLCECYDAGCAWY+LTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1508	RPSGIFDSVVLCECYDAGCAWYDLTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1567
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY +IDAH LSQTKQ GEN PYLVAYQATVC RA+APPPSWD MWKC++RLKPTL GPTPLLY	600
Sbjct	1568	NIDAHMLSQTKQGGENFPYLVAYQATVCVRAKAPPPSWDTMWKCMLRLKPTLTGPTPLLY	1627
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEITLTHP+TKYIM CMSADLEV+TSTWVLVGGV+AALAAYCL+ G V IVGR+	660
Sbjct	1628	RLGAVQNEITLTHPITKYIMACMSADLEVITSTWVLVGGVVAALAAYCLTVGSVAIVGRI	1687
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 +LSG+PAIIPDREVLY++FDEMEEC	
Sbjct	1688	ILSGRPAIIPDREVLYQQFDEMEEC 1712	

> C gi|68012734|gb|AAY84763.1| nonstructural protein 3 [Hepatitis C virus] Length=631

Score = 1150 bits (2974), Expect = 0.0, Method: Composition-based stats. Identities = 612/631 (96%), Positives = 619/631 (98%), Gaps = 0/631 (0%)

```
APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
Query
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
            APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Sbjct
       1
                                                                            120
Query
       61
            TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrq
            T+TIAS KGPVIQMYTNVDQDLVGWPAPQG+RSLTPCTCGSSDLYLVTRHADVIPVRRRG
            TKTIASSKGPVIQMYTNVDQDLVGWPAPQGARSLTPCTCGSSDLYLVTRHADVIPVRRRG
Sbjct
       61
                                                                           120
            \tt dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
Query
       121
            DSRGSLLSPRPISYLKGSSGGPLLCPA HAVGIFRAAVCTRGVAKAVDFIPVE LETTMR
       121 DSRGSLLSPRPISYLKGSSGGPLLCPAVHAVGIFRAAVCTRGVAKAVDFIPVEGLETTMR
                                                                           180
Sbjct
```

		•	
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVF+DNSSPP VPQS+QVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	181	SPVFSDNSSPPAVPQSYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHGIDP IRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Sbjct	241	YMSKAHGIDPIIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI	300
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGI TVLDQAETAGARL VLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLE IK	360
Sbjct	301	LGIDTVLDQAETAGARLTVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEAIK	360
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKLVALG+NAVAYYRGLDVSVIP GDVVVVATDALMTG+TG	420
Sbjct	361	GGRHLIFCHSKKKCDELAAKLVALGVNAVAYYRGLDVSVIPASGDVVVVATDALMTGFTG	420
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNTCVTQTVDFSLDPTFTIET TLPQDAVSRTQRRGRTGRGKPGIYRFV PGE	480
Sbjct	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETTTLPQDAVSRTQRRGRTGRGKPGIYRFVTPGE	480
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Query	601	RLGAVQNEITLTHPÝTKYIMTCMSADLEVVT 631 RLGAVONEITLTHP+TKYIMTCMSADLEVVT	
Sbjct	601	RLGAVQNEITLTHPITKYIMTCMSADLEVVT 631	

# $> \frac{\text{Gi}|89519417|\text{gb}|ABD75830.1|}{\text{Length}=3008}$ polyprotein [Hepatitis C virus]

Score = 1149 bits (2973), Expect = 0.0, Method: Composition-based stats. Identities = 594/685 (86%), Positives = 640/685 (93%), Gaps = 0/685 (0%)

Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL I+TSLTGRD N+ GEVQ++STA Q+FL T +NGV W+VYHGAG	60
Sbjct	1027	APITAYAQQTRGLFSTIVTSLTGRDTNENCGEVQVLSTATQSFLGTAVNGVMWSVYHGAG	1086
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg +TI+ PKGPV OMYTNVDODLVGWPAP G +SLTPCTCG+SDLYLVTRHADV+PVRRRG	120
Sbjct	1087	GKTISGPKGPVNQMYTNVDQDLVGWPAPPGVKSLTPCTCGASDLYLVTRHADVVPVRRRG	1146
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+RG+LLSPRPIS LKGSSGGPLLCP GH G+FRAAVCTRGVAKAVDF+PVE+LETTMR	180
Sbjct	1147	DTRGALLSPRPISTLKGSSGGPLLCPMGHVAGLFRAAVCTRGVAKAVDFVPVESLETTMR	1206
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNS+PP VPO++OVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	240
Sbjct	1207	SPVFTDNSTPPAVPQTYQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA	1266
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKA+GIDPNIR+GVRTITTG+PITYSTYGKFLADGGCSGGAYDIIICDECHSTD+T+I	300
Sbjct	1267	YMSKAYGIDPNIRSGVRTITTGAPITYSTYGKFLADGGCSGGAYDIIICDECHSTDSTTI	1326
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RLVVLATATPPGSVT PH NIEE+AL TTGEIPFYGKAIPLE+IK	360

Sbjct	1327	LGIGTVLDQAETAGVRLVVLATATPPGSVTTPHSNIEEIALPTTGEIPFYGKAIPLELIK	1386
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L +LG+NAVAYYRGLDVSVIP GDVVV ATDALMTG+TG	420
Sbjct	1387	GGRHLIFCHSKKKCDELAKQLTSLGLNAVAYYRGLDVSVIPTSGDVVVCATDALMTGFTG	1446
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCNT V QTVDFSLDPTF+IET T+PQDAVSR+QRRGRTGRG+ GIYR+V PGE	480
Sbjct	1447	DFDSVIDCNTSVIQTVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGRLGIYRYVTPGE	1506
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG+FD+SV+CECYDAGCAWYELTPAETT RLRAY NTPGLPVCQDHLEFWE VFTGLT	540
Sbjct	1507	RPSGIFDTSVICECYDAGCAWYELTPAETTTRLRAYFNTPGLPVCQDHLEFWESVFTGLT	1566
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY ID HFLSQTKQSGEN PYLVAYQATVCARA APPPSWD MWKCLIRLKPTLHGPTPLLY	600
Sbjct	1567	QIDGHFLSQTKQSGENFPYLVAYQATVCARALAPPPSWDTMWKCLIRLKPTLHGPTPLLY	1626
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLG+VQNE+TLTHP+TKYIM CMSADLEVVTSTWVLVGGVLAALAAYCLS G VVIVGRV	660
Sbjct	1627	RLGSVQNEVTLTHP1TKYIMACMSADLEVVTSTWVLVGGVLAALAAYCLSVGSVVIVGRV	1686
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 VLSG+PA+IPDREVLY++FDEMEEC	
Sbjct	1687	VLSGQPAVIPDREVLYQQFDEMEEC 1711	

> gi|3550759|dbj|BAA32664.1| polyprotein [Hepatitis C virus (isolate Th580)] gi|81924482|sp|092529|POLG HCVT5 Genome polyprotein [Contains: Core protein p21 (Caps C) (p21); Core protein p19; Envelope glycoprotein E1 (gp32) (gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7; Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin) (NS3P) (p70); Nonstructural protein 4A (NS4A) (p8); Nonstructural protein 4B (NS4B) (p27); Nonstructural protein 5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)] Length=3019

Score = 1146 bits (2965), Expect = 0.0, Method: Composition-based stats. Identities = 586/685 (85%), Positives = 633/685 (92%), Gaps = 0/685 (0%)

```
APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
Query 1
             APITAYAOOTRGL+G I+TSLTGRDKN+ EGEVQ+VSTA Q+FLAT INGV WTVYHGAG
             APITAYAOOTRGLVGTIVTSLTGRDKNEAEGEVQVVSTATQSFLATTINGVLWTVYHGAG
                                                                            1091
Sbjct
       1032
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg
                                                                            120
Query
       61
             ++ +A PKGPV QMYTNVDQDLVGWPAP G+RSL PCTCGSSDLYLVTR ADVIP RRRG
Sbjct
       1092
             SKNLAGPKGPVCQMYTNVDQDLVGWPAPLGARSLAPCTCGSSDLYLVTRGADVIPARRRG
                                                                            1151
                                                                            180
Query
       121
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
             D+R +LLSPRPIS LKGSSGGPL+CP+GH VG+FRAAVCTRGVAKA+DFIPVEN++TTMR
             DTRAALLSPRPISTLKGSSGGPLMCPSGHVVGLFRAAVCTRGVAKALDFIPVENMDTTMR
                                                                            1211
Sbjct
       1152
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
Query
             SPVFTDNSSPP VPQ++QV +LHAPTGSGKST+VPAAYA QGYKVLVLNPSVAATL FGA
             SPVFTDNSSPPAVPQTYQVGYLHAPTGSGKSTRVPAAYATQGYKVLVLNPSVAATLSFGA
                                                                            1271
       1212
Sbjct
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
Query
       241
             YMSKAHGIDPNIRTGVRTITTG P+TYSTYGKFLADGGCSGGAYDIIICDECHSTD T++
       1272 YMSKAHGIDPNIRTGVRTITTGGPVTYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV
                                                                            1331
Sbjct
             LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
Query
       301
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Sbjct	1332	LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI E AL TTGEIPFYGK IPLE IK LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHPNITETALPTTGEIPFYGKCIPLEFIK	1201
	1332	DOIGH ADDOMERAGANDIA DALAH ELEGOA I A EMEMILIE LA MENER LIGHT DE LA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONTRA L'ARCHARDELLA CONT	1391
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDEL+ +L +LG+NAVA+YRG+DV+VIP GDVVV ATDALMTGYTG	420
Sbjct	1392	GGRHLIFCHSKKKCDELSKQLTSLGLNAVAFYRGVDVAVIPTSGDVVVCATDALMTGYTG	1451
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN VTO VDFSLDPTF+IET T+PODAVSR+ORGRTGRGKPG+YRFV+ GF	480
Sbjct	1452	DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE	1511
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1512	RPSGMFDS VLCE YD GCAWYELTPAETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSVVLCEAYDTGCAWYELTPAETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1571
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1572	HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCL RLKPTL GPTPLLY HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDVMWKCLTRLKPTLTGPTPLLY	1631
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660
Sbjct	1632	RLGAVQNEI THP+TKYIMTCMSADLEV+TSTWV+VGGVLAALAAYCL+ GCVVI GR+ RLGAVQNEIVTTHPITKYIMTCMSADLEVITSTWVIVGGVLAALAAYCLTVGCVVICGRI	1691
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 V SGKPA++PDREVLY++FDEMEEC	
Sbjct	1692	VTSGKPAVVPDREVLYQQFDEMEEC 1716	•

## $> \Box gi|73765377|gb|AAZ85046.1|$ polyprotein [Hepatitis C virus] Length=3012

Score = 1145 bits (2961), Expect = 0.0, Method: Composition-based stats. Identities = 578/685 (84%), Positives = 634/685 (92%), Gaps = 0/685 (0%)

		51, 555 (517, 15511155 531, 555 (525), 5453 5, 555 (68)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAY QQTRGLLG I+TSLTGRDKN+VEGE+Q+VSTA QTFLAT +NGV WTVYHGAG	60
Sbjct	1034	APITAYHQQTRGLLGTIVTSLTGRDKNEVEGEIQVVSTATQTFLATAVNGVLWTVYHGAG	1093
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV QMYTNVDQD+VGWPAP G+RSLTPCTCGSSD+YLVTR+ADVIP RRRG	120
Sbjct	1094	SKTLAGPKGPVCQMYTNVDQDMVGWPAPPGARSLTPCTCGSSDVYLVTRNADVIPARRRG	1153
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+R LLSPRP+S LKGSSGGP+LCP+GHAVG+FRAAVCTRGVAKA+DF+PVEN+ETTMR	180
Sbjct	1154	DTRAGLLSPRPLSTLKGSSGGPILCPSGHAVGLFRAAVCTRGVAKAIDFVPVENMETTMR	1213
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SPVFTDNSSPP VP ++QV +LHAPTGSGKSTKVPAAYA+QGYKVLVLNPSVAATL FG+	240
Sbjct	1214	SPVFTDNSSPPAVPSTYQVGYLHAPTGSGKSTKVPAAYASQGYKVLVLNPSVAATLAFGS	1273
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YMSKAHG+DPNIRTGVRTITTG PITYSTYGKFLADGGCSGGAYDIIICDECHSTD T+I	300
Sbjct	1274	YMSKAHGVDPNIRTGVRTITTGGPITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTI	1333
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI EVAL TTGE+PFYG+ IPLE IK	360
Sbjct	1334	LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHPNISEVALPTTGEVPFYGRGIPLEYIK	1393
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG	420
Sbjct	1394	GGRHLIFCHSKKKCDELAKQLRSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG	1453

Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN VTQ VDFSLDPTFTIET T+PQDAV+R+QRRGRTGRGKPG+YR+V+ GE	480
Sbjct	1454	DFDSVIDCNVAVTQVVDFSLDPTFTIETTTVPQDAVARSQRRGRTGRGKPGYYRYVSQGE	1513
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSG FD+ VLCE YD GCAWYELTP+ETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1514	RPSGTFDTVVLCEAYDVGCAWYELTPSETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1573
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKO GEN YLVAYOATVCARA+APPPSWD MWKCL+RLKP L GPTPLLY	600
Sbjct	1574	HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCL+RLKP L GPTPLLY HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDNMWKCLLRLKPMLVGPTPLLY	1633
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNE+T THP+TKYIMTCMSADLEV+TS WVL GG+LAALAAYCL+TG VI GR+	660
Sbjct	1634	RLGAVQNE+T THP+TKYIMTCMSADLEV+TS WVL GG+LAALAAYCL+TG VI GR+ RLGAVQNEVTTTHPITKYIMTCMSADLEVITSAWVLTGGILAALAAYCLTTGSAVICGRI	1693
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 + SGKPA++PDREVLY++FDEMEEC	
Sbjct	1694	ITSGKPAVMPDREVLYQQFDEMEEC 1718	
>	931025 =3019	10 gb ABE98157.1  polyprotein [Hepatitis C virus subtype 6a]	
Score Ident:	= 114: ities :	5 bits (2961), Expect = 0.0, Method: Composition-based stats. = 581/685 (84%), Positives = 635/685 (92%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL G I+TSLTGRDKN+VEGEVQ+VSTA Q+FLAT INGV WTVYHGAG	60
Sbjct	1032	APITAYAQQTRGLFGTIVTSLTGRDKNEVEGEVQVVSTATQSFLATSINGVMWTVYHGAG	1091
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg +RT+A PKGPV QMYTNVD+DLVGWP+P G+RSLTPCTCGSSDLYLVTR ADVIP RRRG	120
Sbjct	1092	SRTLAGPKGPVCQMYTNVDKDLVGWPSPPGARSLTPCTCGSSDLYLVTREADVIPARRRG	1151
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+R +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DF+PVEN+ETTMR	180
Sbjct	1152	DNRAALLSPRPISTLKGSSGGPIMCPSGHVVGLFRAAVCTRGVAKSLDFVPVENMETTMR	1211
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA QGYKVLVLNPSVAATL FG+	240
Sbjct	1212	SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYADQGYKVLVLNPSVAATLSFGS	1271
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YM +A+G++PN+RTGVRT+TTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++	300
Sbjct	1272	YMRQAYGVEPNVRTGVRTVTTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV	1331
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAE+AG RL VLATATPPGSVTVPHPNI E ALSTTGEIPFYGKAIPLE IK	360
Sbjct	1332	LGIGTVLDQAESAGVRLTVLATATPPGSVTVPHPNI E ALSITGEIPFYGKAIPLE IK	1391
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG	420
Sbjct	1392	GGRHLIFCHSKKKCDELA KL +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG GGRHLIFCHSKKKCDELAGKLKSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG	1451
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN VTO VDFSLDPTF+IET T+PODAVSR+ORRGRTGRGKPG+YRFV+ GF	480
Sbjct	1452	DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE	1511

 ${\tt RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT}$ 

Query 481

		• 1	
Sbjct	1512	RPSGMFDS VLCE YD GCAWYELTP+ETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFDSVVLCEAYDTGCAWYELTPSETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1571
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600
Sbjct	1572	HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDTMWKCLIRLKPTLTGPTPLLY	1631
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVONEI THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+	660
Sbjct	1632	RLGAVQNEI THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+ RLGAVQNEIITTHPITKYIMTCMSADLEVITSTWVLVGGVLAALAAYCLSVGCVVICGRI	1691
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 L+GKPA++PDRE+LY++FDEMEEC	
Sbjct	1692.	TLTGKPAVVPDREILYQQFDEMEEC 1716	
Length:	=3019	604 gb ABE98154.1  polyprotein [Hepatitis C virus subtype 6a] 4 bits (2958), Expect = 0.0, Method: Composition-based stats.	
		= 581/685 (84%), Positives = 637/685 (92%), Gaps = 0/685 (0%)	
Query	1	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL+G I+TSLTGRDKN+VEGEVQ+VSTA Q+FL T INGV WTVYHGAG	60
Sbjct	1032	APITAYAQQTRGLVGTIVTSLTGRDKNEVEGEVQVVSTATQSFLVTSINGVMWTVYHGAG	1091
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV QMYTNVD+D+VGWP+P G+RSLTPCTCGSSDLYLVTR ADVIP RRRG	120
Sbjct	1092	SKTLAGPKGPVCQMYTNVDKDVVGWPSPPGARSLTPCTCGSSDLYLVTREADVIPARRRG	1151
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+R +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DFIPVEN+ETTMR	180
Sbjct	<b>1</b> 152	DNRAALLSPRPISTLKGSSGGPIMCPSGHVVGLFRAAVCTRGVAKSLDFIPVENMETTMR	1211
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA+QGYKVLVLNPSVAATL FG+	240
Sbjct	1212	SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYASQGYKVLVLNPSVAATLSFGS	1271
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YM +A+G++PNIRTGVRT+TTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++	300
Sbjct	1272	YMRQAYGVEPNIRTGVRTVTTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV	1331
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI E ALSTTGEIPFYGKAIPLE IK	360
Sbjct	1332	LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHPNITETALSTTGEIPFYGKAIPLEYIK	1391
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELAAKL +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG	420
Sbjct	1392	GGRHLIFCHSKKKCDELAAKLRSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG	1451
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE	480
Sbjct	1452	DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE	1511
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFD+ VLCE YD GCAWYELTP+ETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1512	RPSGMFDTVVLCEAYDTGCAWYELTPSETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1571
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY	600
Sbjct	1572	HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDTMWKCLIRLKPTLTGPTPLLY	1631

Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEI THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+	660		
Sbjct	1632	RLGAVQNEIITTHPITKYIMTCMSADLEVITSTWVLVGGVLAALAAYCLSVGCVVICGRI	1691		
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 L+GKPA++PDRE+LY++FDEMEEC			
Sbjct	1692	TLTGKPAVVPDREILYQQFDEMEEC 1716			
> T gi 93102494 gb ABE98149.1  polyprotein [Hepatitis C virus subtype 6a] Length=3019					
		2 bits (2955), Expect = 0.0, Method: Composition-based stats. = $579/685$ (84%), Positives = $636/685$ (92%), Gaps = $0/685$ (0%)			
Query	1,	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL+G I+TSLTGRDKN+VEGEVQ+VSTA Q+FLAT INGV WTVYHGAG	60		
Sbjct	1032	APITAYAQQTRGLVGTIVTSLTGRDKNEVEGEVQVVSTATQSFLATSINGVMWTVYHGAG	1091		
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrg ++T+A PKGPV QMYTNVD+DLVGWP+P G+RSLTPCTCGSSDLYLVTR ADVIP RRRG	120		
Sbjct	1092	SKTLAGPKGPVCQMYTNVDKDLVGWPSPPGARSLTPCTCGSSDLYLVTREADVIPARRRG	1151		
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+R +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DFIPVEN+ETTMR	180		
Sbjct	1152	DNRAALLSPRPISTLKGSSGGPIMCPSGHVVGLFRAAVCTRGVAKSLDFIPVENMETTMR	1211		
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA+QGYKVLVLNPSVAATL FG+	240		
Sbjct	1212	SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYASQGYKVLVLNPSVAATLSFGS	1271		
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YM +A+G++PN+RTGVRT+TTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++	300		
Sbjct	1272	YMRQAYGVEPNVRTGVRTVTTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV	1331		
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI E ALSTTGEIPFYGKAIPLE IK	360		
Sbjct	1332	LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHPNITETALSTTGEIPFYGKAIPLEYIK	1391		
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA +L +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG	420		
Sbjct	1392	GGRHLIFCHSKKKCDELAGQLKSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG	1451		
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRR RTGRGKPG+YR V+ GE	480		
Sbjct	1452	DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRVRTGRGKPGVYRIVSQGE	1511		
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFD+ VLCE YD GCAWYELTP+ETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540		
Sbjct	1512	RPSGMFDTVVLCEAYDTGCAWYELTPSETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1571		
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY	600		
Sbjct	1572	HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDTMWKCLIRLKPTLTGPTPLLY	1631		
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV	660		
Sbjct	1632	RLGAVQNEIT THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+RLGAVQNEITTTHPITKYIMTCMSADLEVITSTWVLVGGVLAALAAYCLSVGCVVICGRI	1691		
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685			

## L+GKPA++PDRE+LY++FDEMEEC Sbjct 1692 TLTGKPAVVPDREILYQQFDEMEEC 1716

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> T gi|81985682|sp|Q512N3|POLG HCV6A Genome polyprotein [Contains: Core protein p21 (Ca
C) (p21); Core protein p19; Envelope glycoprotein E1 (qp32)
(gp35); Envelope glycoprotein E2 (NS1) (gp68) (gp70); p7;
Protease NS2-3 (p23); Serine protease/NTPase/helicase NS3 (Hepacivirin)
(NS3P) (p70); Nonstructural protein 4A (NS4A) (p8);
Nonstructural protein 4B (NS4B) (p27); Nonstructural protein
5A (NS5A) (p56); RNA-directed RNA polymerase (NS5B) (p68)]
 gi|57791994|gb|AAW56714.1| polyprotein [Hepatitis C virus (isolate 6a33)]
Length=3019
 Score = 1142 bits (2955), Expect = 0.0, Method: Composition-based stats.
 Identities = 579/685 (84%), Positives = 637/685 (92%), Gaps = 0/685 (0%)
Query
             APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
                                                                            60
             APITAYAQQTRGL+G I+TSLTGRDKN+VEGEVQ+VSTA Q+FLAT INGV WTVYHGAG
Sbjct
       1032 APITAYAQQTRGLVGTIVTSLTGRDKNEVEGEVQVVSTATQSFLATSINGVMWTVYHGAG
                                                                            1091
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
       61
Query
                                                                            120
             ++T+A PKGPV QMYTNVD+DLVGWP+P G+RSLTPCTCGSSDLYLVTR ADVIP RRRG
Sbjct
       1092
            SKTLAGPKGPVCQMYTNVDKDLVGWPSPPGARSLTPCTCGSSDLYLVTREADVIPARRRG
                                                                            1151
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
Query
       121
                                                                            180
             D+R +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DFIPVEN+ETTMR
Sbjct
       1152
             DNRAALLSPRPISTLKGSSGGPVMCPSGHVVGLFRAAVCTRGVAKSLDFIPVENMETTMR
                                                                            1211
Query
       181
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
                                                                            240
             SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA+QGYKVLVLNPSVAATL FG+
       1212
Sbjct
             SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYASQGYKVLVLNPSVAATLSFGS
                                                                            1271
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
Query
       241
                                                                            300
             YM +A+G++PN+RTGVRT+TTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++
Sbjct
       1272
            YMRQAYGVEPNVRTGVRTVTTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV
                                                                            1331
Query
       301
             LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
                                                                            360
             LGIGTVLDQAETAGARL VLATATPPGS+TVPHPNI E AL TTGEIPFYGKAIPLE IK
       1332 LGIGTVLDQAETAGARLTVLATATPPGSITVPHPNITETALPTTGEIPFYGKAIPLEYIK
Sbjct
                                                                            1391
       361
Query
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
             GGRHLIFCHSKKKCDELA KL +LG+NAVA+YRG+DVSVIP GDVV+ ATDALMTGYTG
Sbjct
       1392
             GGRHLIFCHSKKKCDELAGKLKSLGLNAVAFYRGVDVSVIPTSGDVVICATDALMTGYTG
                                                                            1451
       421
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE
Query
                                                                            480
             DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE
Sbjct
       1452
            DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE
                                                                            1511
       481
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
Query
                                                                            540
             RPSGMFD+ VLCE YD GCAWYELTP+ETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
Sbjct
       1512
            RPSGMFDTVVLCEAYDTGCAWYELTPSETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            1571
             HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
Query
       541
                                                                            600
             HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY
Sbjct
       1572
            HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDTMWKCLIRLKPTLTGPTPLLY
                                                                            1631
Query
       601
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV
                                                                            660
             RLGAVQNEI THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+
Sbjct
       1632 RLGAVQNEIITTHPITKYIMTCMSADLEVITSTWVLVGGVLAALAAYCLSVGCVVICGRI
                                                                            1691
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Query 661 VLSGKPAIIPDREVLYREFDEMEEC 685 L+GKPA++PDRE+LY++FDEMEEC Sbjct 1692 TLTGKPAVVPDREILYQQFDEMEEC 1716

#### > <u>| gi|93102500|gb|ABE98152.1|</u> polyprotein [Hepatitis C virus subtype 6a] Length=3019

Expect = 0.0, Method: Composition-based stats. Score = 1142 bits (2953),Identities = 582/685 (84%), Positives = 636/685 (92%), Gaps = 0/685 (0%) 60 APITAYAQOTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG Query 1 APITAYAOOTRGL+G I+TSLTGRDKN+VEGEVQ+VSTA Q+FLAT +NGV WTVYHGAG 1091 1032 APITAYAQQTRGLVGTIVTSLTGRDKNEVEGEVQVVSTATQSFLATSVNGVMWTVYHGAG Sbjct TRTIASPKGPVIOMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg Query 61 ++T+A PKGPV QMYTNVD+DLVGWP+P G+RSLTPCTCGSSDLYLVTR ADVIP RRRG SKTLAGPKGPVCQMYTNVDKDLVGWPSPPGARSLTPCTCGSSDLYLVTREADVIPARRRG 1151 Sbjct 1092 dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR 180 121 Query D+R +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DFIPVEN+ETTMR DNRAALLSPRPISTLKGSSGGPIMCPSGHVVGLFRAAVCTRGVAKSLDFIPVENMETTMR 1211 1152 Sbjct SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA 240 181 Query SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA+QGYKVLVLNPSVAATL FG+ SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYASQGYKVLVLNPSVAATLSFGS 1271 1212 Sbjct YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI 300 Query 241 YM +AHG++PNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++  ${\tt YMRQAHGVEPNIRTGVRTITTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV}$ 1331 1272 Sbjct LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK 360 301 Query LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI E AL TTGEIPFYGKAIPLE IK 1391 LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHPNITETALPTTGEIPFYGKAIPLEYIK 1332 Sbjct 420 GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG 361 Query GGRHLIFCHSKKKCDELA KL +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG GGRHLIFCHSKKKCDELAGKLKSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG 1451 Sbjct 480 DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE Query 421 DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE 1511 DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE Sbjct 1452 540 RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT Query 481 RPSGMFD+ VLCE YD GCAWYELTP+ETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 1571 RPSGMFDTVVLCEAYDTGCAWYELTPSETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT 1512 Sbjct 600 HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY 541 Query HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY 1631 HIDAHFLSOTKOGGENFAYLVAYQATVCARAKAPPPSWDVMWKCLIRLKPTLTGPTPLLY Sbjct 1572 660 RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV Query 601 RLGAVONEI THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+ RLGAVQNEIITTHPITKYIMTCMSADLEVITSTWVLVGGVLAALAAYCLSVGCVVICGRI 1691 1632 Sbjct 661 VLSGKPAIIPDREVLYREFDEMEEC 685 Query L+GKPA++PDRE+LY++FDEMEEC 1692 TLTGKPAVVPDREILYQQFDEMEEC 1716 Sbjct

<sup>&</sup>gt; T qi|93102492|qb|ABE98148.1| polyprotein [Hepatitis C virus subtype 6a]

Length=3019

```
Score = 1140 bits (2950), Expect = 0.0, Method: Composition-based stats.
 Identities = 581/685 (84%), Positives = 637/685 (92%), Gaps = 0/685 (0%)
Query
             APITAYAQOTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG
             APITAYAOOTRGL+G I+TSLTGRDKN+VEGEVQ+VSTA Q+FLAT INGV WTVYHGAG
       1032 APITAYAQQTRGLVGTIVTSLTGRDKNEVEGEVQVVSTATQSFLATSINGVMWTVYHGAG
                                                                            1091
Sbjct
             TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrq
                                                                            120
Query
       61
             ++T+A PKGPV QMYTNVD+DLVGWP+P G+RSLTPCTCGSSDLYLVTR ADVIP RRRG
Sbjct
       1092 SKTLAGPKGPVCQMYTNVDKDLVGWPSPPGARSLTPCTCGSSDLYLVTREADVIPARRRG
                                                                            1151
       121
             dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR
                                                                            180
Query
             D+R +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DFIPVEN+ETTMR
       1152 DNRAALLSPRPISTLKGSSGGPIMCPSGHVVGLFRAAVCTRGVAKSLDFIPVENMETTMR
                                                                            1211
Sbjct
             SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA
Query
       181
                                                                            240
             SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA+QGYKVLVLNPSVAATL FG+
       1212 SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYASQGYKVLVLNPSVAATLSFGS
                                                                            1271
Sbjct
Query
       241
             YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI
                                                                            300
             YM +A+G++PN+RTGVRT+TTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++
       1272 YMRQAYGVEPNVRTGVRTVTTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV
                                                                            1331
Sbjct
                                                                            360
Query
       301
             LGIGTVLDOAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK
             LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI E ALSTTGEIPFYGKAIPLE IK
Sbjct
       1332
             LGIGTVLDOAETAGVRLTVLATATPPGSVTVPHPNITETALSTTGEIPFYGKAIPLEYIK
                                                                            1391
       361
             GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG
                                                                            420
Query
             GGRHLIFCHSKKKCDELA KL +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG
Sbjct
       1392
             GGRHLIFCHSKKKCDELAGKLKSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG
                                                                            1451
             DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrqrtqrqKPGIYRFVAPGE
                                                                            480
       421
Query
             DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE
       1452
             DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE
                                                                            1511
Sbjct
                                                                            540
             RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
Query
       481
             RPSGMFD+ VLCE YD GCAWYELTP+ETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
             RPSGMFDTVVLCEAYDTGCAWYELTPSETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT
                                                                            1571
Sbjct
       1512
                                                                            600
Query
       541
             HIDAHFLSOTKOSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY
             HIDAHFLSOTKO GEN YLVAYOATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY
Sbjct
       1572
             HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDTMWKCLIRLKPTLTGPTPLLY
                                                                            1631
Query
       601
             RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvgqvlaalaaYCLSTGCVVIVGRV
                                                                            660
             RLGAVQNEI THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+
                                                                            1691
Sbjct
       1632
             RLGAVQNEIITTHPITKYIMTCMSADLEVITSTWVLVGGVLAALAAYCLSVGCVVICGRI
Query
       661
            VLSGKPAIIPDREVLYREFDEMEEC
                                         685
              L+GKPA++PDRE+LY++FDEMEEC
Sbjct
       1692 TLTGKPAVVPDREILYQQFDEMEEC
                                         1716
```

## > <u>gi|93102502|gb|ABE98153.1|</u> polyprotein [Hepatitis C virus subtype 6a] Length=3019

Score = 1140 bits (2948), Expect = 0.0, Method: Composition-based stats. Identities = 581/685 (84%), Positives = 636/685 (92%), Gaps = 0/685 (0%)

Query 1 APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG 60

		:	
Sbjct	1032	APITAYAQQTRGL+G I+TSLTGRDKN+VEGEVQ+VSTA Q+FLAT INGV WTVYHGAG APITAYAQQTRGLVGTIVTSLTGRDKNEVEGEVQVVSTATQSFLATSINGVMWTVYHGAG	1091
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrrg ++T+A PKGPV QMYTNVD+DLVGWP+P G+RSLTPCTCGSSDLYL+TR ADVIP RRRG	120
Sbjct	1092	SKTLAGPKGPVCQMYTNVDKDLVGWPSPPGARSLTPCTCGSSDLYLITREADVIPARRRG	1151
Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR D+R +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DFIPVEN+ETTMR	180
Sbjct	1152	DNRAALLSPRPISTLKGSSGGPIMCPSGHVVGLFRAAVCTRGVAKSLDFIPVENMETTMR	1211
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA+QGYKVLVLNPSVAATL FG+	240
Sbjct	1212	SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYASQGYKVLVLNPSVAATLSFGS	1271
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YM +A+G++PNIRTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++	300
Sbjct	1272	YMRQAYGVEPNIRTGVRTITTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV	1331
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI E AL TTGEIPFYGKAIPLE IK	360
Sbjct	1332	LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHPNITETALPTTGEIPFYGKAIPLEYIK	1391
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG	420
Sbjct	1392	GGRHLIFCHSKKKCDELAGKLKSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG	1451
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE	480
Sbjct	1452	DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE	1511
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFD+ VLCE YD GCAWYELTP+ETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1512	RPSGMFDTVVLCEAYDTGCAWYELTPSETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT	1571
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY	600
Sbjct	1572	HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDIMWKCLIRLKPTLTGPTPLLY	1631
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEI THP+TKYIMTCMSADLEV+TSTWVLVGGVLAALAAYCLS GCVVI GR+	660
Sbjct	1632	RLGAVQNEIITTHPITKYIMTCMSADLEVITSTWVLVGGVLAALAAYCLSVGCVVICGRI	1691
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 L+GKPA++PDRE+LY++FDEMEEC	
Sbjct	1692	TLTGKPAVVPDREILYQQFDEMEEC 1716	

## $> \Gamma$ gi|93102514|gb|ABE98159.1| polyprotein [Hepatitis C virus subtype 6a] Length=3019

Score = 1139 bits (2947), Expect = 0.0, Method: Composition-based stats. Identities = 580/685 (84%), Positives = 635/685 (92%), Gaps = 0/685 (0%)

Query	1 .	APITAYAQQTRGLLGCIITSLTGRDKNQVEGEVQIVSTAAQTFLATCINGVCWTVYHGAG APITAYAQQTRGL+G I+TSLTGRDKN+VEGEVQ+VSTA Q+FLAT INGV WTVYHGAG	60
Sbjct	1032	APITAYAQQTRGLVGTIVTSLTGRDKNEVEGEVQVVSTATQSFLATSINGVMWTVYHGAG	1091
Query	61	TRTIASPKGPVIQMYTNVDQDLVGWPAPQGSRSLTPCTCGSSDLYLVTRHADVIPVrrg ++T+A PKGPV QMYTNVDQDLVGWP+P G+RSLTPCTCGS+DLYLVTR ADVIP RRRG	120
Sbjct	1092		1151

Query	121	dsrgsllsprPISYLKGSSGGPLLCPAGHAVGIFRAAVCTRGVAKAVDFIPVENLETTMR	180
Sbjct	1152	DSR +LLSPRPIS LKGSSGGP++CP+GH VG+FRAAVCTRGVAK++DFIPVEN+ETTMR DSRAALLSPRPISTLKGSSGGPIMCPSGHVVGLFRAAVCTRGVAKSLDFIPVENMETTMR	1211
Query	181	SPVFTDNSSPPVVPQSFQVAHLHAPTGSGKSTKVPAAYAAQGYKVLVLNPSVAATLGFGA SP FTDNS+PP VPQ++QV +LHAPTGSGKST+VPAAYA+QGYKVLVLNPSVAATL FG+	240
Sbjct	1212	SPSFTDNSTPPAVPQTYQVGYLHAPTGSGKSTRVPAAYASQGYKVLVLNPSVAATLSFGS	1271
Query	241	YMSKAHGIDPNIRTGVRTITTGSPITYSTYGKFLADGGCSGGAYDIIICDECHSTDATSI YM +A+G++PN+RTGVRTITTG ITYSTYGKFLADGGCSGGAYDIIICDECHSTD T++	300
Sbjct	1272	YMRQAYGVEPNVRTGVRTITTGGAITYSTYGKFLADGGCSGGAYDIIICDECHSTDPTTV	1331
Query	301	LGIGTVLDQAETAGARLVVLATATPPGSVTVPHPNIEEVALSTTGEIPFYGKAIPLEVIK LGIGTVLDQAETAG RL VLATATPPGSVTVPHPNI E AL TTGEIPFYGKAIPLE IK	360
Sbjct	1332	LGIGTVLDQAETAGVRLTVLATATPPGSVTVPHPNITETALPTTGEIPFYGKAIPLEYIK	1391
Query	361	GGRHLIFCHSKKKCDELAAKLVALGINAVAYYRGLDVSVIPPIGDVVVVATDALMTGYTG GGRHLIFCHSKKKCDELA KL +LG+NAVA+YRG+DVSVIP GDVVV ATDALMTGYTG	420
Sbjct	1392	GGRHLIFCHSKKKCDELAGKLKSLGLNAVAFYRGVDVSVIPTSGDVVVCATDALMTGYTG	1451
Query	421	DFDSVIDCNTCVTQTVDFSLDPTFTIETITLPQDAVSrtqrrgrtgrgKPGIYRFVAPGE DFDSVIDCN VTQ VDFSLDPTF+IET T+PQDAVSR+QRRGRTGRGKPG+YRFV+ GE	480
Sbjct	1452	DFDSVIDCNVAVTQVVDFSLDPTFSIETTTVPQDAVSRSQRRGRTGRGKPGVYRFVSQGE	1511
Query	481	RPSGMFDSSVLCECYDAGCAWYELTPAETTVRLRAYMNTPGLPVCQDHLEFWEGVFTGLT RPSGMFD+ VLCE YD GCAWYELTP+ETTVRLRAY+NTPGLPVCQDHLEFWEGVFTGLT	540
Sbjct	1512	RPSGMFDTVVLCEAYDTGCAWYELTPSETTVRLRAYLNTPGLPVCQDHLEFWEGVFTGLT	1571
Query	541	HIDAHFLSQTKQSGENLPYLVAYQATVCARAQAPPPSWDQMWKCLIRLKPTLHGPTPLLY HIDAHFLSQTKQ GEN YLVAYQATVCARA+APPPSWD MWKCLIRLKPTL GPTPLLY	600
Sbjct	1572	HIDAHFLSQTKQGGENFAYLVAYQATVCARAKAPPPSWDTMWKCLIRLKPTLTGPTPLLY	1631
Query	601	RLGAVQNEITLTHPVTKYIMTCMSADLEVVTSTWvlvggvlaalaaYCLSTGCVVIVGRV RLGAVQNEI THP+TKYIMTCMSADLEV+TSTWV+VGGVLAALAAYCLS GCVVI GR+	660
Sbjct	1632	RLGAVQNEIITTHPITKYIMTCMSADLEVITSTWVIVGGVLAALAAYCLSVGCVVICGRI	1691
Query	661	VLSGKPAIIPDREVLYREFDEMEEC 685 L+GKP ++PDREVLY++FDEMEEC	
Sbjct	1692	TLTGKPVVVPDREVLYQQFDEMEEC 1716	

#### Get selected sequences Select all Deselect all Distance tree of results

```
Database: All non-redundant GenBank CDS translations+PDB+SwissProt+PIR+PRF excluding environmental samples
```

Posted date: Jul 20, 2006 3:05 AM

Number of letters in database: 1,312,134,661 Number of sequences in database: 3,805,897

 ${\tt Lambda} \qquad {\tt K} \qquad {\tt H}$ 

0.320 0.136 0.423

Gapped

Lambda K H

0.267 0.0410 0.140

Matrix: BLOSUM62

Gap Penalties: Existence: 11, Extension: 1

Number of Sequences: 3805897 Number of Hits to DB: 171000343 Number of extensions: 7142453

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Number of successful extensions: 17341
Number of sequences better than 10: 85
Number of HSP's better than 10 without gapping: 0
Number of HSP's gapped: 17304
Number of HSP's successfully gapped: 85
Length of query: 685
Length of database: 1312134661
Length adjustment: 137
Effective length of query: 548
Effective length of database: 790726772
Effective search space: 433318271056
Effective search space used: 433318271056
T: 11
A: 40
X1: 16 (7.4 bits)
X2: 38 (14.6 bits)
X3: 64 (24.7 bits)
S1: 41 (20.4 bits)
S2: 80 (35.4 bits)
```